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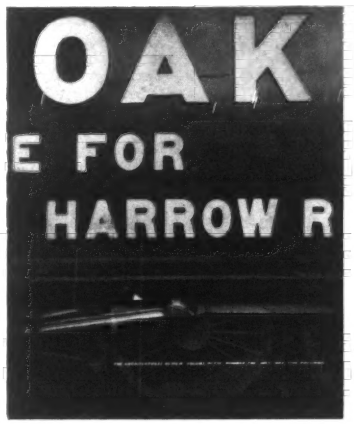
THE ARCHITECTURAL REVIEW

Volume 120 Number 750 July 1959



This month's cover is a symbolic montage of lettering in motion; steam-age railway typography mounted on the steam driven wheels that were its reason for existing. An article on pages 53-56 of this issue examines the strength and nature of the great steam-age tradition of railway lettering, epitomized in this station name-board from Royal Oak on the old Great Western Railway, and goes on to suggest the measures that must be taken to retrieve railway lettering from the state of genteelism and unreadability into which it has sunk since that tradition was broken in the nineteen-thirties.

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This issue appears more than a month late owing to the recent dispute in the printing industry. An August-September issue will appear in a month's time. The loss of one issue will be made up by extending subscriptions by a month.

BOOK REVIEWS

Not Dark nor Satanic

THE FUNCTIONAL TRADITION IN EARLY INDUSTRIAL BUILDINGS. *By J. M. Richards. The Architectural Press. 36s. net.*

The word 'functionalism' has been more associated with contemporary architecture than any other. It is a word which, constantly—and often deliberately—mis-applied, continues to engender heat between those who maintain that functionalism is the basic architectural philosophy of our time and those who are emotionally influenced by the value bestowed on buildings by time and things past. It is to the occupants of the latter camp, whose prejudices have done so much to label functionalism a dangerous and seditious creed, that Mr. Richards primarily addresses his book.

And a very beautiful book it is, too. Supported by Eric de Maré's wonderful photographs—there are over 200 of them—the author sets out to prove that, far from being a manifestation peculiar to our day, functionalism is an architectural tradition which has fulfilled itself in nearly every period of our history. He describes it as

> 'the principle that the process of designing a building begins with a close analysis of the needs it is to serve. It has as its object the fulfilment of such needs as logically and economically as possible, by taking full advantage of the means and materials available. Its aesthetic character is created as part of the same process.'

With that as a premise, what buildings more functional—if the time of their erection is taken into consideration—could one find than the cathedral and the castle of the Middle Ages, created by the demands of liturgy or defence?

But this study has nothing to do with the mediaeval aspects of functionalism; its concern is the buildings of the Industrial Revolution, the period which made the last half of the eighteenth century and the first half of the nineteenth one of the greatest in our history. We are now far enough removed in time—but only just—for due appreciation to be made of the aesthetic qualities of the buildings which the exigencies of manufacture and trade demanded of architecture. We can now look dispassionately on most aspects of the nineteenth century and award the 'dark Satanic mill' very nearly as much adulation as was being accorded the classical temple of the Ægæan in the very year the mill was going up on the steep side of some Pennine valley. The reason for this, it is explained, is 'the automatic operation of the cycle of taste' and the current response 'to those buildings which possess the qualities our own aspire to.'

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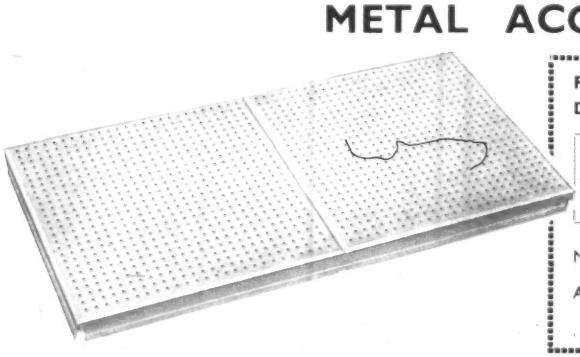

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each section give very elementary general advice, presumably aimed at the lay public. They also tell us that well designed beds scarcely exist in Denmark and that dining tables and chairs are getting lower. For the expert the inclusion of dates in the captions provides an interesting chronological study of each designer's work, particularly in the chair section which is by far the largest and richest.

This is a pleasantly produced and unpretentious book. The photography is honest and straightforward and never over-dramatizes, but to some eyes the sameness of this honesty may seem dull. But can this really be anything like the total of this quality of design produced in Denmark in the last few years? The scope of the textile section seems unnecessarily restricted and there are notable gaps among the light fittings.

J.P.

BOOKS RECEIVED

MODEL MAKING IN CARDBOARD. *By Thomas Bayley. Dryad Press, 12s. 6d.*
THE DESIGN OF PHYSICS RESEARCH LABORATORIES. *By the Institute of Physics, Chapman and Hall, 21s.*
DESIGN MANUAL FOR CABINET FURNITURE. *The Furniture Development Council. Pergamon Press, 17s. 6d.*
PLUMBING. *By Sydney Webster. B. T. Batsford Ltd, 30s.*
A LAND. *By Jacquetta Hawkes. Penguin Books, 3s. 6d.*
ALANYA. *By Sefton Lloyd and D. Storm Rice. British Institute of Archaeology at Ankara, 42s.*
MASTERS OF MODERN ARCHITECTURE. *By John Peter. B. T. Batsford Ltd, 70s.*
PARKING. *By G. Baker and B. Funaro. Reinhold Publishing Corporation, 76s.*
PLANNING 1958. *American Society of Planning Officials.*
STRUCTURAL MECHANICS. *By W. Morgan and D. T. Williams. Pitman, 30s.*

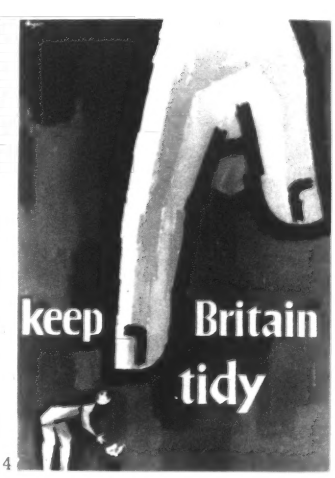
MARGINALIA

Transported Bath-house

Arnos Court Bath House, a prime example of the functional folly, detailed in Batty Langley Gothick and built around 1760, was in a condition to cause some alarm two years ago, having become so decrepit that rescue seemed unlikely. However, a dramatic gesture by Clough Williams-Ellis has resulted in its partial salvation, not on its original site outside Bristol, nor in its original function as a bath house, but as an ornamental colonnade, 3, in the gardens at Portmeirion, the resort-village on the Welsh coast that is fast becoming, in Mr. Williams-Ellis's words, a home for fallen buildings. The AR has, before now, expounded the case for preservation through transportation (*Exporting Buildings*, April, 1953) as a possible solution to the problem of the eccentric or not-quite-first-class monument, and this particular instance is a step in that direction.

Litter-Conscience

Since the dropping of litter is a bad habit that afflicts all grades of society, including readers of *The Times* (Marginalia, October, 1955) the campaign to Keep Britain Tidy must, presumably, attack on different levels at different seasons. The neat circular arrow-and-litter-basket roundels with which the campaign started are still with us, but have probably become ineffectual with over-familiarity; last year's painfully sentimental girlie-with-doggie seems to have been ridiculed even by those it was intended to have its effect upon. This year the attack has shifted again — and for the better it seems — and we now have the forceful expressionism of Hans Unger's *Finger of Conscience*, 4, which will be the main



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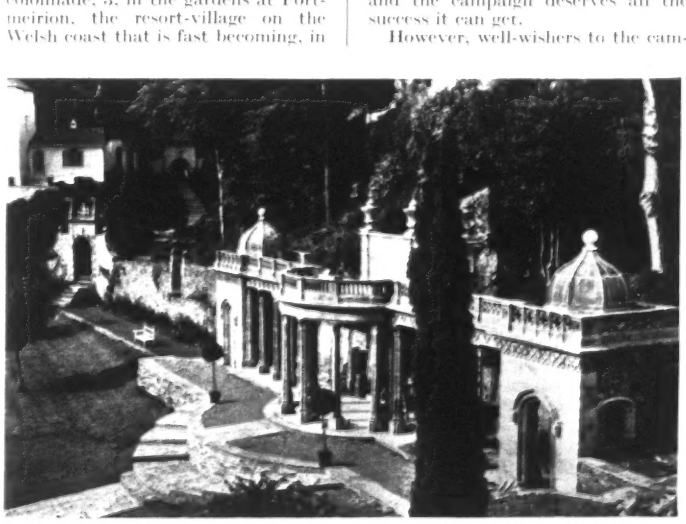
visual weapon of this summer's campaign. The strong colours and easily apprehended symbol should give it far more punch than the flower-bordered genteelisms of the standard poster still current in the Royal Parks and the campaign deserves all the success it can get.

However, well-wishers to the campaign might still like to be re-assured that solid motivational research as well as the talents of distinguished poster artists are being put to work. Is it sufficient, for instance, to prod the public's conscience, in this way, without also reminding them where they should put the litter they ought not to drop?


3, *Bristol bath-house now re-erected as an ornamental colonnade in the gardens at Portmeirion.*

OBITUARY

J. L. Beddington 1893—1959

One of the only ways in which one could offend Jack Beddington was to cast a slur on the advertising business. This was not because he took particularly seriously what is called the art of advertising but because he was devoted to the arts of painting and film making.

He considered that big firms with money to spend on publicity should employ real artists and not 'commercial artists.' He saw that the days of the rich private patron were numbered and that commerce was the only hope, for most artists, of earning a living. Therefore it was his constant endeavour to persuade commercial firms not always to stick to direct advertising of their products but to venture out into the world of films, literature and art galleries; at the same time he took much trouble to persuade artists and writers that there was nothing shameful in accepting commissions from say petrol or chocolate firms, particularly when they would not be required to paint or write anything about the products.

His warm and generous temperament was combined with his knowledge of painting and a shrewd and rapid judgment of character. He was the ideal impresario. Though he was a very kind man, he was also forthright. He would help a bad artist privately but he would never employ him. I have been with him when some sad creature with a training in a school of 'commercial art' came with a portfolio some ideas for advertisements. 'Of course, this is only a rough draft' the man would say. 'I would rather see some rougher. This is no good. What is your sketch book like? What are you really interested in?' He was always ready to see people, even the most persistent or least talented, again and again. His joy of fulfilment came when he discovered genuine talent. No matter how gauche, proud or difficult the owner of that talent was, Jack went out of his way to encourage and employ him. His appreciation was catholic and he had an eye for a man who could draw with a comic line as well as for the most grandiose romantic or austere abstract artist. In films he could pick out the director with an original viewpoint even if the film of his which he first saw was of some highly technical subject.

The sense of quality which distinguished him came partly from his family. His aunt was Ada Leverson, Oscar Wilde's 'Sphinx' and the author of witty Edwardian novels recently reprinted. His father was a notable lawyer and his mother was a cultured French woman. His wife and children and his gardening in the country were his sure and steady anchorage in the turbulent sea of telephones, committees, banquets and interviews which comprised his public life in London.

No words can express the fun it was to be in his company—the shrewd glance of those almond eyes, those excessively spruce clothes which showed the Balliol man of the Raymond Asquith era and the officer of the 1914 war, the delight in being laughed at, the intense enjoyment of life which he communicated to everyone who had the privilege of meeting him. Above all there was the continuity of his loyal friendship through poverty or riches, disgrace or success.

John Betjeman

CORRECTION

In the article on the offices at Eastbourne Terrace, Paddington, in the April issue, pages 237 and 298, the glazing was referred to as 'double glazed units'; this should have read 'dual glazed.' A double glazed unit is one where two individual pieces of glass are glazed into a frame with a parting bead in the centre and a dual glazed unit is one which is made up as a single unit with two sheets of glass hermetically sealed.

Also in the article on Two LCC Comprehensive Schools (May AR, pages 306 313) the following credits should have been included: Deputy Architect to the London County Council, F. G. West. *Garratt Green School*, Group leader, M. Kenchington, Job architect, K. Jones. *Kingsdale School*, Group leader, A. Donnan, Job architect, L. H. Lloyd. We apologize for this omission.

ACKNOWLEDGMENTS

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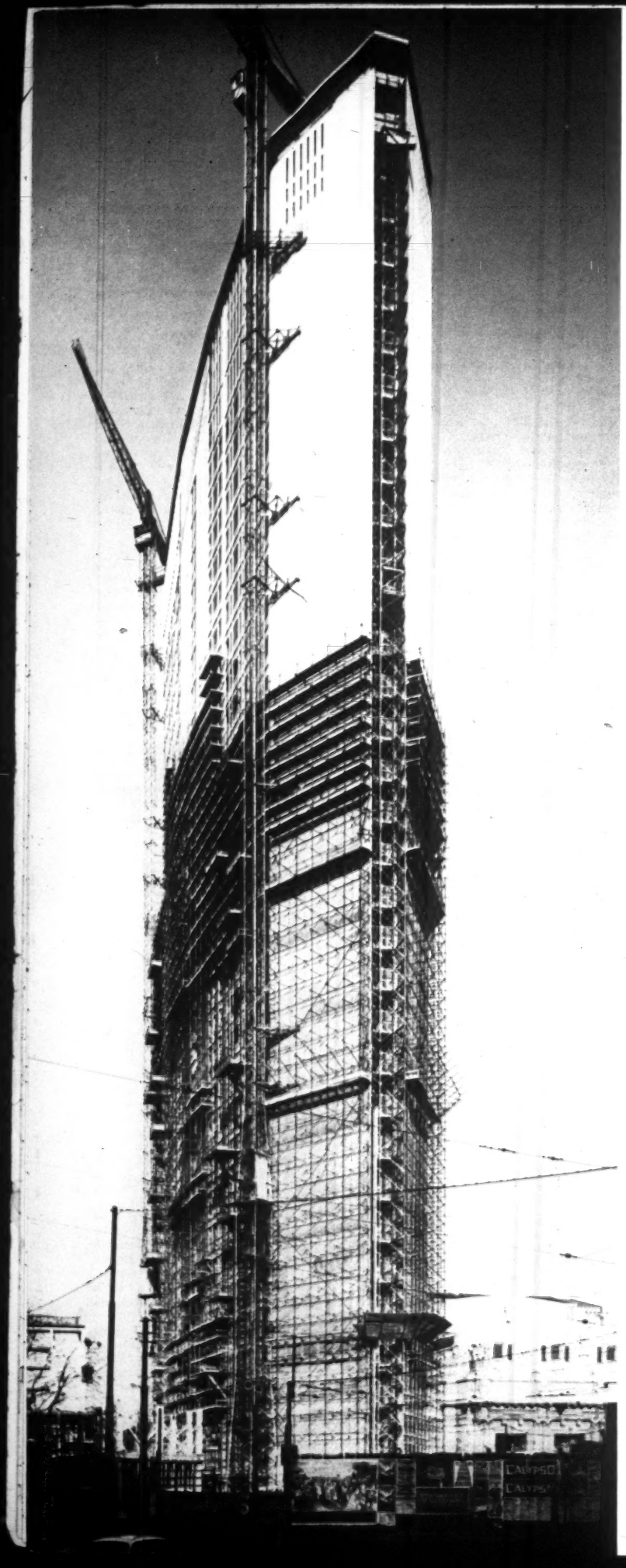


The Pirelli skyscraper in Milan, designed by Ponti, Fornaroli and associates, with Pierluigi Nervi as engineer for the structure, is rapidly nearing its completion, as the picture on the left shows.
But this picture has a double significance. Not only does it show one of the most important new buildings in Europe, but it also shows a building in a controversial theoretical context. The picture was sent to the AR by Gio Ponti with a covering letter pointing out that not all Italian architects had retreated from Modern Architecture. The reference was to Reyner Banham's article Neoliberty which appeared in the AR for April 1959, and posed the problem of an apparent revival of an historical style "Art Nouveau" in recent Italian deviations from the accepted canons of Modern Architecture.
The boat-like, anti-slab plan of the Pirelli-skyscraper is also a deviation from those canons but can hardly be termed a retreat from the ideas and methods of the Modern Movement.
Rather, since it is based on a close study of office planning modules, and a drastic re-appraisal of reinforced concrete tower structures, it may well take its place beside such other radical concepts of office-building design as Hentrich's Mannesmann Tower in Dusseldorf, making a decisive and progressive break with a tradition of rectangular glazed envelopes that may well suit the technological and economic conditions of America, but could prove to be a wishful dream in Europe, where economics, technology and the wage-structure of the building industry are so different.
In addition, the Pirelli skyscraper will take its place as an objective fact in the disputed territory of the Milanese skyline, and those like Bruno Zevi and others who concern themselves with the responsibility that modern Italian architects owe to their traditional townscapes, will be able to compare it with Ernesto Rogers's Torre Velasca, which makes a deliberate gesture on behalf of the historical tradition, and assess in fact what has only been a matter of conjecture so far—whether a tall tower block, having broken with the traditional scale of the buildings around it, still owes any stylistic consideration to earlier towers, such as those of the Cathedral, that had invaded the skyline before it.

J. M. Richards

COMPETITIONS

Controversies about who is to be the architect of some important new building—for example that which arose recently about Arne Jacobsen's appointment to design the new St. Catherine's College at Oxford, which some people objected to because he is a Dane—usually include the proposal that there ought to be a competition. Such proposals come from architects, but outside the profession there is less faith in competitions. What are in fact the present defects and virtues of the competition system and what measures are needed to make it more useful and restore to it some of the prestige it once had?

It would be a pity to let it decline, but there are signs of that happening, partly because the system has been brought into disrepute by the unfortunate outcome of a number of recent competitions. Those who advocate competitions will say that nevertheless a number of architectural competitions held in England since the war have resulted in first-rate buildings of a quality that would probably not have been achieved by other means. That is true. Obvious examples are the TUC headquarters in Great Russell Street, London, the Pimlico and Golden Lane housing schemes and the new buildings for Sheffield University. And the Churchill College, Cambridge, competition holds out promise of adding another to the number. But a few successes among many are not enough. If public authorities and other prospective building owners are to be sincerely recommended to hold competitions, there must be reasonable prospect of a satisfactory result in every case—or at least as satisfactory as the best architects in the country are capable of producing.

How unsatisfactory the system can be has been shown up several times—notably in the competition, held earlier this year, for a one-and-a-half million pound civic centre for Ipswich. It is generally agreed that the winning design was far below the best standard

of which English architects are capable. The Ipswich Council showed enterprise in holding a competition,and have cause to complain that the architectural profession (or the competition system) let them down. Other building-owners have felt the same after the results of important competitions have been declared. What tends to go wrong?

A great deal depends on how the competition is judged and by whom, and a system cannot be regarded as satisfactory if it only solves the problem of how to choose an architect by posing the problem of how to choose an assessor. For the choice of assessor may determine the whole outcome of the competition. Architects become inhibited and subconsciously restrict the scope of their imaginations when they know their designs are going to be judged by a man with particular preferences and prejudices, and they may even feel constrained to assume a style of design they think will please him. What is more important, many architects will not enter for a competition that is to be judged by someone they feel to be unsympathetic, and because assessors have to be responsible people and are therefore often chosen from the staider and more senior members of the profession, it is likely to be the more progressive and enterprising architects who refrain from competing.

One possible answer is to have more than one assessor, which is the normal practice outside England. That spreads the responsibility and ensures a more objective outlook at the judging, and for this reason gives more confidence to prospective competitors. It means, that is to say, that the competition is less at the mercy of whatever factors may determine the choice of a single individual by whoever appoints the assessor—usually the RIBA.

There are other advantages, too, of a jury or panel of assessors, one being that a representative of the client can be included. This is a way of avoiding the complaint, sometimes made afterwards, that the man who is going to pay for the building had not enough say in choosing it. An architectural competition must nevertheless remain a professional affair, and if it is to be judged by a panel of assessors it is important to maintain the RIBA ruling that such a panel must contain a majority of architects. It must be added that there is one disadvantage in a panel of assessors—their tendency to choose a scheme because none of them dislike it, thus encouraging compromise solutions and giving the safe preference over the brilliant.

Two other improvements in the rules that govern competitions could usefully be made in order to increase confidence—both within the profession and among the public—in their outcome. It should be obligatory to exhibit all the entries publicly—not simply the winners—and the assessor or assessors should publish a report giving reasons for the award. It is important not only that competitions should be fairly judged but that they should give every impression of being fairly judged, with all the cards, as it were, laid on the table.

These three requirements apart (more than one assessor, exhibition of all the designs, a reasoned report) there seems to be little wrong with the rules and customs of architectural competitions as governed by the RIBA. But unfortunately a well-conducted competition does not guarantee a successful result because the best architects still may not compete. What are the factors that determine whether they do? The answers must be sought in the changes that have recently taken place in architectural practice.

The great days of the competition system were also the great days of private practice, when every office draughtsman carried a brass plate in his knapsack and the accepted way of launching himself on the road to lucrative practice, membership of the Academy and a knighthood was winning an open competition; so much so that the story-book idea of the unknown genius who becomes famous overnight and never looks back commonly came true in the world of architecture because of the competition system. The last classic case was that of Sir Giles Scott, who in 1903 won the Liverpool cathedral competition at the age of twenty-three and is still building it.

Because of the prestige accorded to architectural competitions those responsible for new public buildings seldom hesitated to seek a design or an architect by this means. The question is whether the architectural competition has, along with other essentially Victorian institutions, had its day. Those who would answer yes point in explanation to changed conditions of practice. Architects are supposed to be no longer willing to speculate with their time as they used to do, or else to be too hard pressed to work on designs for buildings that may never be put up. It is certainly more difficult for them to do so, if only because, with the decline of the pupilage system, the work of preparing the elaborate competition drawings usually demanded must fall on highly paid assistants instead of on pupils for whom such work used to be considered excellent training.

On the other hand, even in modern conditions there are arguments in favour of the busiest architects taking part in competitions, whether or not they are financially rewarding. In any case the monetary basis of the competition system is deceptive. The sums awarded—often two or three thousand pounds as first prize—sound impressive, but the winner's prize-money is merged in the fees he will eventually get for the resulting building; so although the winning of a competition may bring work into the office and advance an architect's reputation, it is not in itself very profitable.

Paradoxically, the most immediately remunerative thing is to make a practice of coming second in competitions, thereby winning a substantial prize without the subsequent work of putting the building up. But this is not likely to satisfy most architects, who want to build and value competitions because they create opportunities of doing so. The reason why many busy architects still enter for competitions is,

I imagine, directly related to the time they have to spend nowadays on administration and on fighting their way through the complications of legal procedure. A competition gives them an excuse once in a way to raise their nose, as it were, from those particular grindstones and concentrate on architecture rather than the restrictions imposed on architecture. A competition may be regarded as a kind of post-graduate exercise, which many architects find revivifying to themselves and of educational value to their staff.

Nevertheless it is certainly true that unless the educational value of competing (which cannot be reckoned in man-hours of a draughtsman's labour) is taken into account, the time and energy consumed by the preparation of a couple of hundred schemes in as many architects' offices in order to produce one that will be carried out—and that not certainly—is wasteful, and it is a form of waste that, because of higher salaries and overheads, the profession finds it increasingly difficult to afford. If architectural competitions are to continue therefore, it may be necessary to concentrate in future on other forms of competition than the open free-for-all.

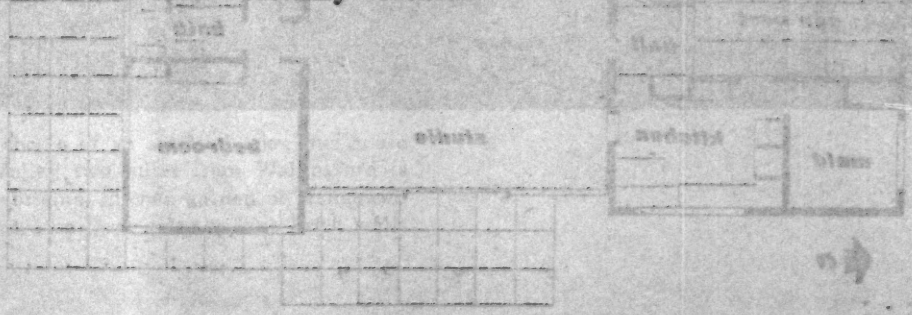
There are two recognized alternatives. One is the two-stage competition (recommended in an RIBA report in 1954) which requires sketch designs only in the first stage, on the basis of which a small number of the competitors is selected to take part in the final stage. These receive a fee for competing. Apart from the obvious advantage that only the architects selected for the second stage have to spend time working out their design in full detail, this method offers the possibility of consultation with the client, who can be shown the selected entries at the end of the first stage, can discuss with the assessors which of these go forward to the final and can, if there is one that he thinks outstanding, commission its author then and there and avoid the need for a second stage at all. It would be undesirable, however, to allow him to push forward a scheme that the assessors had rejected for the second stage.

The other form of competition which is less wasteful than the free-for-all is, of course, the limited competition, in which a few architects, known to be well qualified for the particular task in view, are invited to compete against each other. Usually they receive a fee for competing (though this was not so in the case of the recent competition, limited to twenty architects, for Churchill College, Cambridge). This system is being increasingly used and has its obvious advantages, but it does not serve the traditional purpose of the architectural competition: that of bringing forward unknown young men. It enables a number of trained minds to be applied to the same problem with, therefore, a better chance of a first-class answer being discovered, whereas it used to be said of the traditional open competition that its object was not so much to find the best design as to find the man most capable—after the necessary further study—of creating it: a subtle but important distinction.

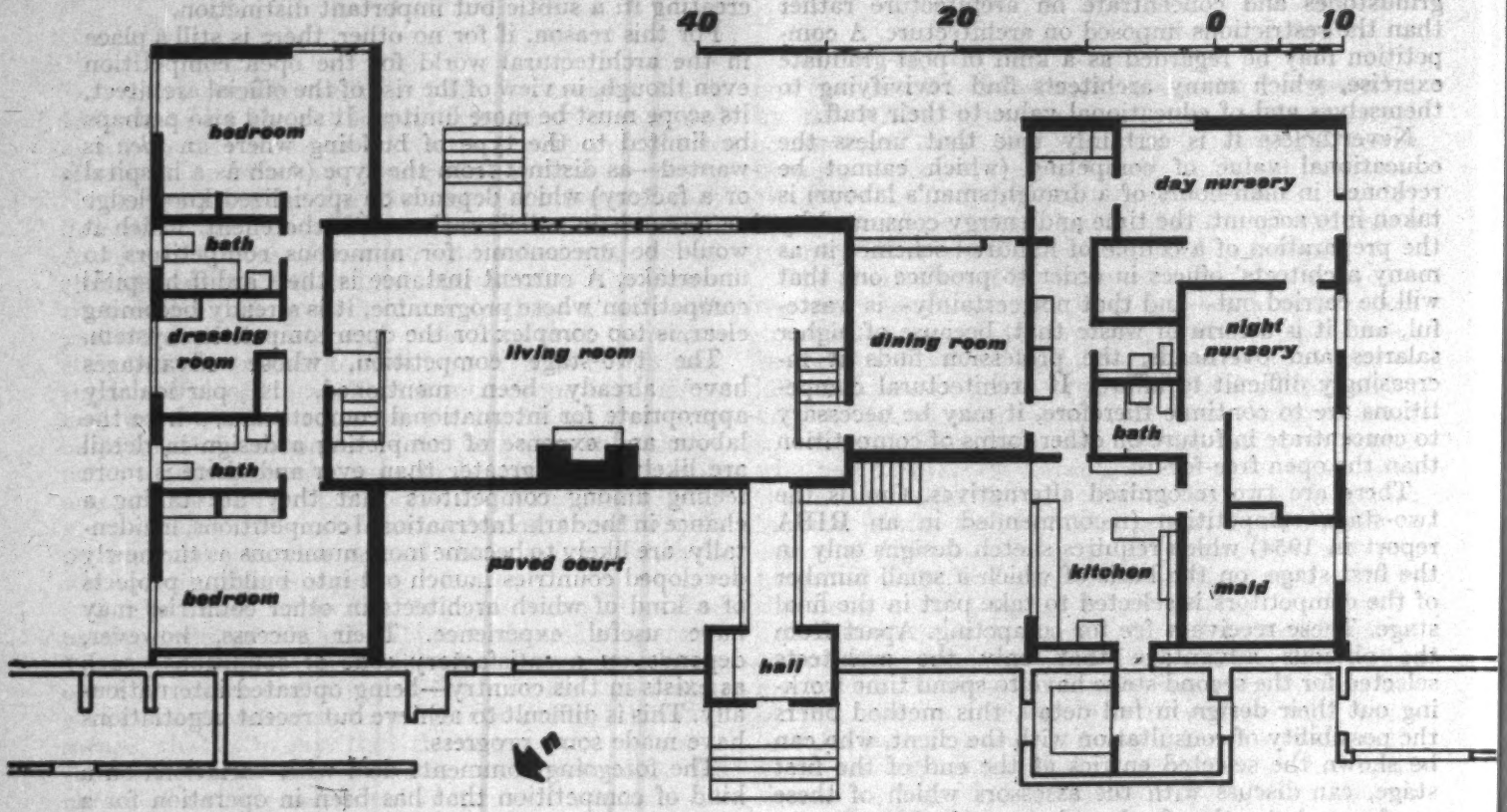
For this reason, if for no other, there is still a place in the architectural world for the open competition even though, in view of the rise of the official architect, its scope must be more limited. It should also perhaps be limited to the type of building where an *idea* is wanted—as distinct from the type (such as a hospital or a factory) which depends on specialized knowledge or research in collaboration with the client, which it would be uneconomic for numerous competitors to undertake. A current instance is the Cardiff hospital competition whose programme, it is already becoming clear, is too complex for the open competition system.

The two-stage competition, whose advantages have already been mentioned, is particularly appropriate for international competitions, where the labour and expense of completing a design in detail are likely to be greater than ever and there is more feeling among competitors that they are taking a chance in the dark. International competitions, incidentally, are likely to become more numerous as the newly developed countries launch out into building projects of a kind of which architects in other countries may have useful experience. Their success, however, depends on a satisfactory code of conditions—such as exists in this country—being operated internationally. This is difficult to achieve but recent negotiations have made some progress.

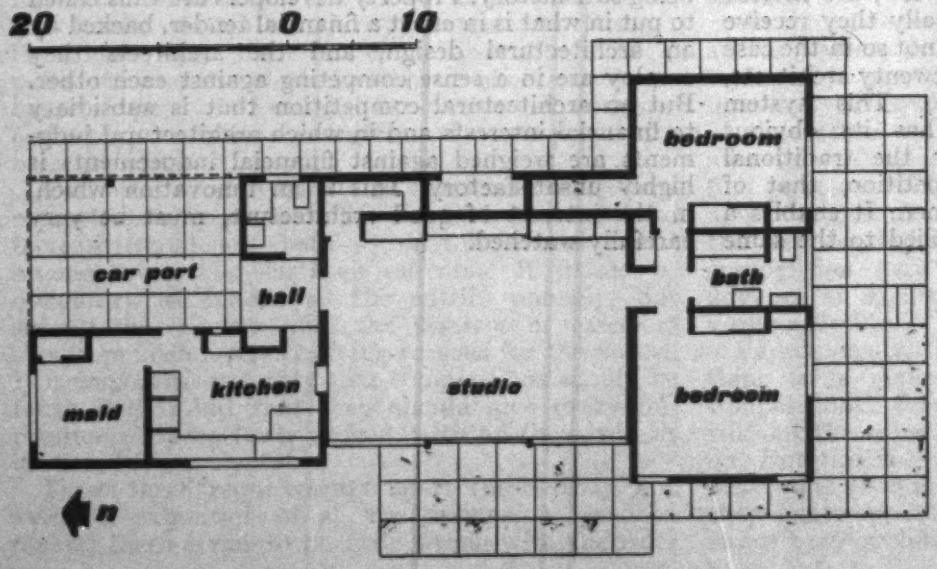
The foregoing comments deal with variations on a kind of competition that has been in operation for a great many years, but a final comment must be made on a wholly new kind of competition which is just beginning to rear its rather ugly head, and which has come into existence almost by accident. It results from the system under which local authorities, having made a plan for the comprehensive rebuilding of some area of ground, throw it open for development by whichever property company makes the best financial offer, subject to the proposed architectural treatment being satisfactory. Property developers are thus called to put in what is in effect a financial tender, backed by an architectural design, and the architects they employ are in a sense competing against each other. But an architectural competition that is subsidiary to financial interests and in which architectural judgments are weighed against financial inducements is highly unsatisfactory. This is an innovation which, in the interest of good architecture, must be very carefully watched.



HOUSE AT MONGEWELL, OXFORDSHIRE



HOUSE AT FAWLEY BOTTOM, BUCKINGHAMSHIRE (see page 11)

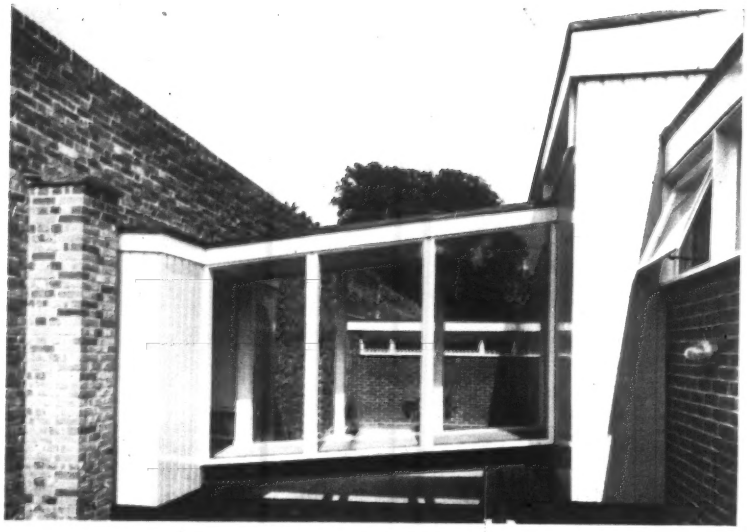


HOUSE AT MONGEWELL, OXFORDSHIRE

ARCHITECTS	***BRETT, BOYD AND BOSANQUET***
Partner in charge	***Lionel Brett***
Chief Assistant	***Victor J. Hutchings***

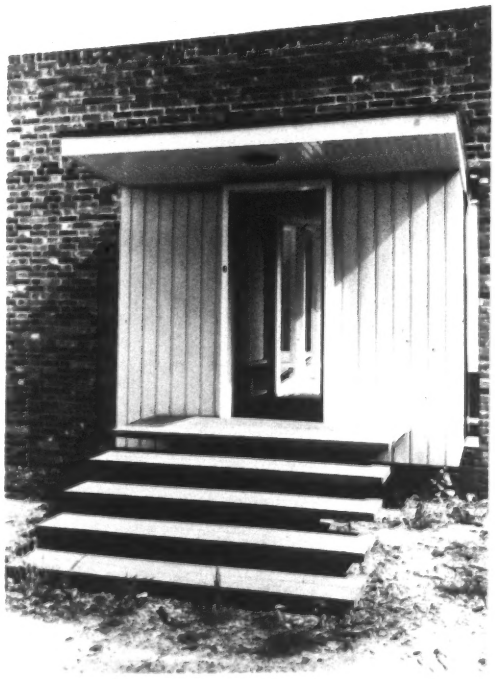
1, the house seen from the south east, across the lake. The living room is raised 3 ft. above the lawn to give better views. The projecting wing on the right is the master bedroom, that on the left the day nursery.

Standing on the shores of an artificial lake, this house in the Thames Valley two miles from Wallingford is on the site of the original kitchen garden of Mongewell Park and surrounded on three sides by high brick walls



2. the sloping bridge crossing the paved patio from the front door on the left to the living room is carried by cranked steel channels and faced in plate glass in wood frames.

backed by beech woods. The large living room separates the two wings, one containing the main bedrooms and bathrooms, the other the children's rooms and kitchen. The wings are of cavity brickwork, with wood and steel windows and a timber, felt-covered roof. The living room is framed in timber, faced with vertical siding painted pale grey, with tapered box beams supporting woodwool slabs for the roof. Two of the large windows on the east are fixed, the other slides open and the whole of this wall is curtained at night.



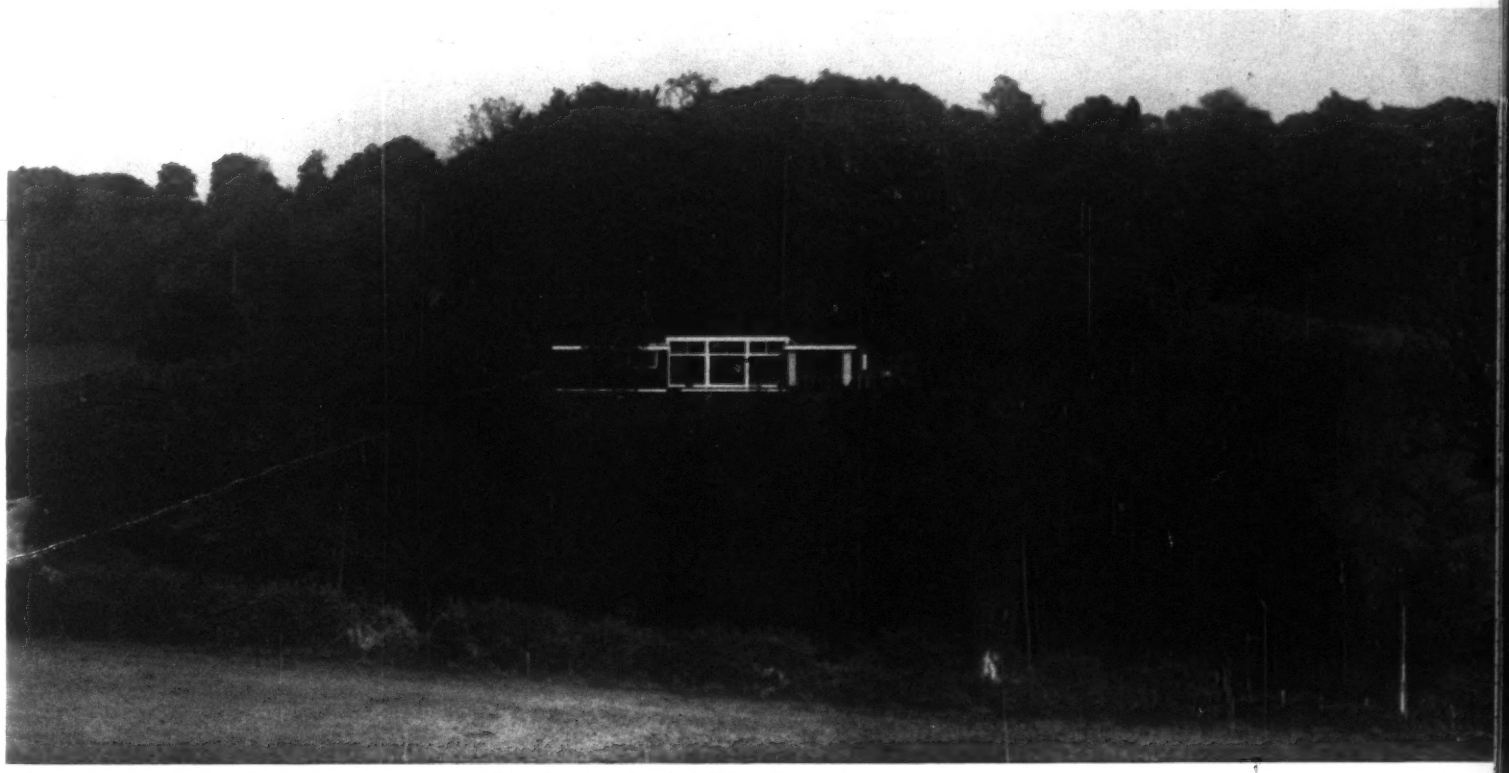
3

3. the entrance hall is a wooden box balanced on the high brick wall on the west of the house and is the only part visible from the road. The steps are solid iroko carried on steel channels.
4. from the north, the main bedroom wing with the living room rising beyond. Bricks are red to match the old walls.

4

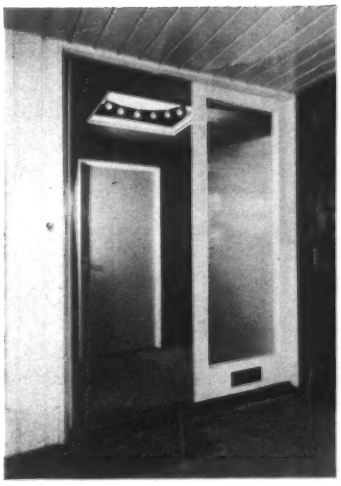
HOUSE AT FAWLEY BOTTOM, BUCKINGHAMSHIRE

ARCHITECTS	***BRETT, BOYD AND BOSANQUET***
Partner in charge	***Lionel Brett***
Chief Assistant	***Victor J. Hutchings***

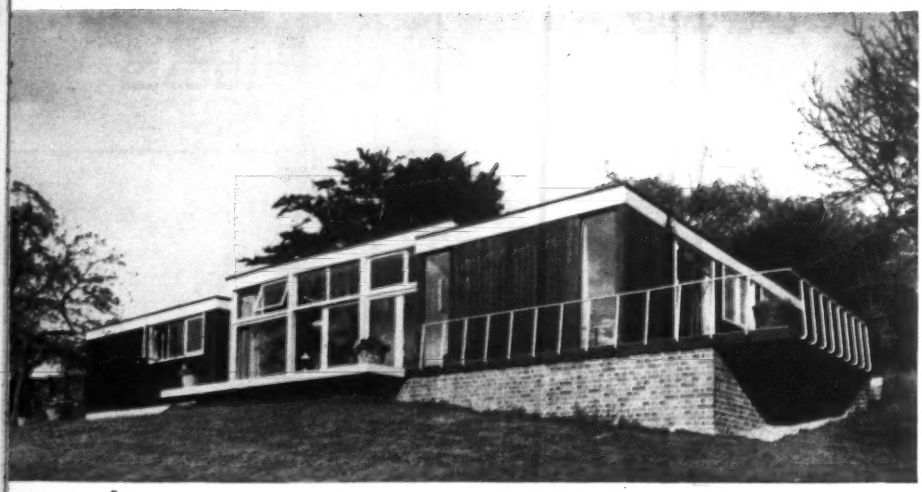


1, the house, seen from the opposite side of the valley, is set among beech woods.

This is a weekend house in the Chilterns, four miles from Henley on Thames, and is simply designed as a flat on a wide terrace, using the platform excavated for the cottages which formerly stood there. The covered car port is between the front door and the kitchen, for easy access. The house is lined inside and out with wood and has aluminium foil insulation. Heating, lighting and cooking are all by electricity. The wood



2, the square entrance hall, here seen from the car port, is lit by a glass dome by day, and by a circlet of small bulbs at night. It is floored entirely in coconut matting.



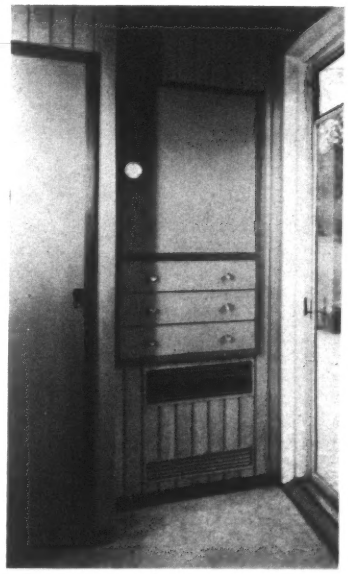
3

3. the big windows of the studio look west across the valley, and the balcony outside the bedrooms gives views to the south.
4. the balcony and bedroom windows from the east.

HOUSE AT FAWLEY BOTTOM

structure of the house is on a 3 ft. square grid, and the walls are covered externally with vertical pine boarding tarred black. The roof over the wings is of timber joists lined in insulated plasterboard and covered with boarding and 3-ply bituminous felt. The studio roof is of 8 ft. long 2 in. thick reinforced woodwool slabs carried on laminated fir beams. Windows are mainly vertically pivoted deal casements. The glazed doors to the bedrooms are special heavy-section steel incorporating glass louvres at the top. Plan on page 8.

4



5

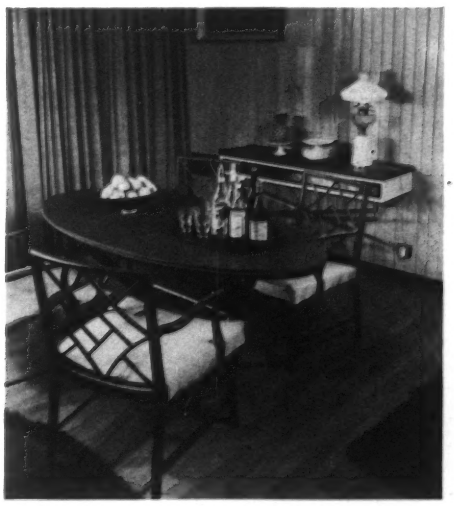
5, the bedrooms have a built-in convector heater with a cupboard above.

6, kitchen cupboards are painted elephant grey and white; the ceiling is blue. The cooker has a polished copper extract hood.

7

6

7, the dining corner of the kitchen, with teak table and wall and bench of walnut.
8, in the studio the table and sideboard have olive green leather tops and were specially designed by Dennis Lennon. The wall is pale yellow ramin, the floor maple.



8

Now that it is possible to give a detailed chronology of William Morris's chintz designs, as Peter Floud does for the first time in the article opposite, it is also possible to see how much he depended on the historical precedents afforded by the fabrics in the South Kensington Museum. The clearest example of this is his adoption, between 1883 and 1890, of a diagonal mode of composition, exemplified by the print on this page, that had never before appeared in his work, but which entered the Museum in 1883 in the form of the fifteenth-century Italian cut velvet seen in the inset right.

PETER FLOUD

DATING MORRIS PATTERNS

Writers about William Morris's designs have always been very vague about dates. They have invariably relied on the two standard works of Aymer Vallance and May Morris. These both discuss the principal designs in approximately chronological order, but they give very few exact dates, there are discrepancies between their lists, and as they both deal with each category of design in isolation—i.e. wallpapers, chintzes, woven textiles, carpets, etc.—it is impossible to piece together from them any continuous picture of Morris's overall development as a designer.

On the basis of a number of records which have not previously been systematically used (listed on page 20), it has been possible for the first time to date precisely the great majority of the designs for wallpapers and chintzes. These two categories formed the basis of Morris's world-wide reputation and influence as a designer, for they alone were within the means of the average middle-class householder, by contrast with the much more costly woven fabrics, the hand tufted rugs, the embroideries, and the tapestries. The placing for the first time of these wallpaper and chintz designs in correct chronological sequence leads to some surprising conclusions. Their validity can only be judged visually, and they are therefore set out in the illustrations on the following five pages.

The first conclusion is that if we concentrate on the steady stream of designs—amounting to seventy-three in all—which Morris produced for wallpapers and chintzes between 1872 and his death in 1896, we see immediately that they fall into four clearly defined periods, each characterized by its own predominant style. This leaves out of account the isolated batch of three early wallpaper designs which Morris produced experimentally in 1864. This is justified, for although all three were popular throughout Morris's lifetime and after, they bear little relation to his later work and are quite untypical of his mature style. The 'Trellis' (Fig. 1)—the first of the three—with its crudely squared-up pattern, is without any parallel among the later designs, and is in any case only partly attributable to Morris, for the birds were drawn by Philip Webb. The 'Daisy' (Fig. 2) is far naiver than any of the later designs, and is based on a simple row-structure which Morris repeated in only one later design. The last of the three—the 'Fruit' or 'Pomegranate' (Fig. 3)—though much more sophisticated, is equally untypical.

The four separate phases of Morris's mature style between 1872 and 1896 are illustrated on pages 17–20 with one page devoted to each phase. The examples have been deliberately selected so as to emphasize the characteristic style of each, and thus to point the contrasts between them. Inevitably this method of presentation overstresses the degree of standardization in Morris's work, but it is not thought that it produces any distortion in the basic picture of his development, and the only significant point which this selection of illustrations leaves out of account is Morris's fondness at all periods for patterns in which the vertical lines sway from side to side as they move up the design. It is only in the final period that this type becomes predominant, and is therefore illustrated.

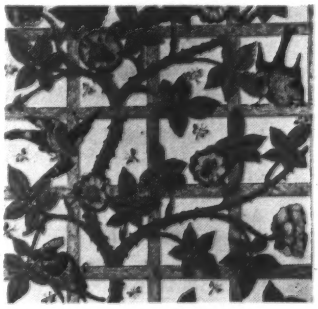
The second conclusion is that Morris's designing underwent a radical transformation in 1876, at the end of the first of these four periods—a transformation from free-flowing meandering naturalistic patterns to rigid symmetrical formal patterns. The third conclusion is that this drastic change was caused by two related factors—namely Morris's first interest in weaving in 1876, and his discovery then of the woven textiles in the South Kensington Museum.

The connection between this change to formal patterns and Morris's first interest in weaving, is shown by the fact that the patterns to which Morris switched over in 1876 were almost all severely symmetrical patterns with sharply emphasized repeats turning over mirror-wise about a series of vertical axes. This type of pattern—called by weavers a point pattern—comes naturally on a loom, because by mirroring the repeats on each side of a vertical warp-thread the work of setting up the monture on a draw-loom, or the harness of a jacquard loom is greatly simplified.

The connection between this change and the textiles in the South Kensington Museum can best be demonstrated by the four juxtapositions set out on page 16. These show that some of Morris's patterns were much more directly inspired by historic examples than has hitherto been supposed. It has always been known that Morris spent much time in the Museum. His firm's earliest secular commission was to decorate the Green Dining Room there in 1866. From 1876 to 1896 he worked each year at South Kensington as one of the Science and Art Department's examiners. He was regularly consulted about the acquisition of tapestries, and on one occasion visited Paris on behalf of the Museum in connection with a purchase. Moreover we have his own testimony before the Royal Commission on Technical Instruction (1882), that 'perhaps I have used the museum as much as any man living.' Nevertheless, it has not before been realized that many of Morris's designs were based very directly on particular specimens which he saw in the museum.

The connection between this reliance on museum examples and Morris's first interest in weaving is provided by the fact that in the years before 1876, when Morris had tried his hand only at wallpapers and printed textiles, the museum collections could afford no direct inspiration, for at that time they included practically no wallpapers or printed textiles, whereas they incorporated a splendid range of woven fabrics ready to hand for Morris to study when he first turned his attention to weaving.

If there were any doubt about this influence of the South Kensington woven textiles, it should be dispelled by the designs of Morris's third period, which lasted from 1883 to 1890 (see page 19). The change which initiated this period was by no means so radical as that of 1876, for it involved no more than a shift from one type of rigid pattern—the vertical turn-over type—to another—the diagonal pattern. The extent to which Morris became preoccupied by diagonal patterns during this third period is shown by the fact that all his nine diagonal wallpaper and chintz patterns date from this period, and that they account for 54 per cent of all the wallpaper and chintz patterns of this period. This preoccupation was undoubtedly inspired by a magnificent Italian cut velvet, which was acquired in 1883—the very year in which Morris first turned to the use of diagonal structures. The similarity between it (Frontis) and Morris's diagonal designs is too close to be coincidental. As in the second period, the most striking feature is that



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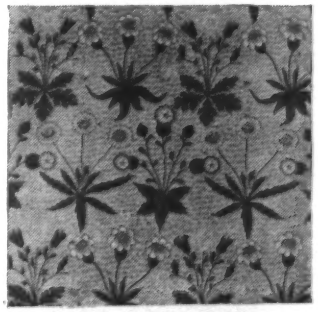

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three early wallpaper designs; 1, *Trellis*; 2, *Daisy*; 3, *Fruit or Pomegranate*.

Morris's interest in these weaving patterns was so strong that it impelled him to introduce their rigid structure not only into his own woven designs, but also into his wallpapers and chintzes, despite its inappropriateness to the quite different medium of woodblock printing.

The fourth—and final—period can be dated from 1890 (see page 20). During the last six years of his life Morris turned back to freer, more flowing patterns, reminiscent of his earliest style. Several of these last designs include, side by side, completely naturalistic and highly conventionalized details, with a curious incongruity which seems to reflect an unresolved dilemma between Morris's love of spontaneous natural forms on the one hand, and his respect for the traditional formal motifs of the historic woven fabrics on the other.

If this analysis of the four stages in Morris's development as a pattern-designer is correct, then his discovery of the woven textiles at South Kensington can only be regarded as a misfortune. His own personality was so strong that even when he was most strongly under their spell, his designs never degenerated into mere pastiche, and his taste and sense of colour were assured enough to give almost all his patterns a distinction and authority lacking in the work of his contemporaries and followers. Nevertheless, after 1876, his immediate individual vision was so overlaid with the weight of historical precedent, that he rarely thereafter succeeded in recapturing that spontaneity and freshness which had been the secret of the beauty—and equally of the commercial success—of his earliest creations.

THE INFLUENCE OF SOUTH KENSINGTON

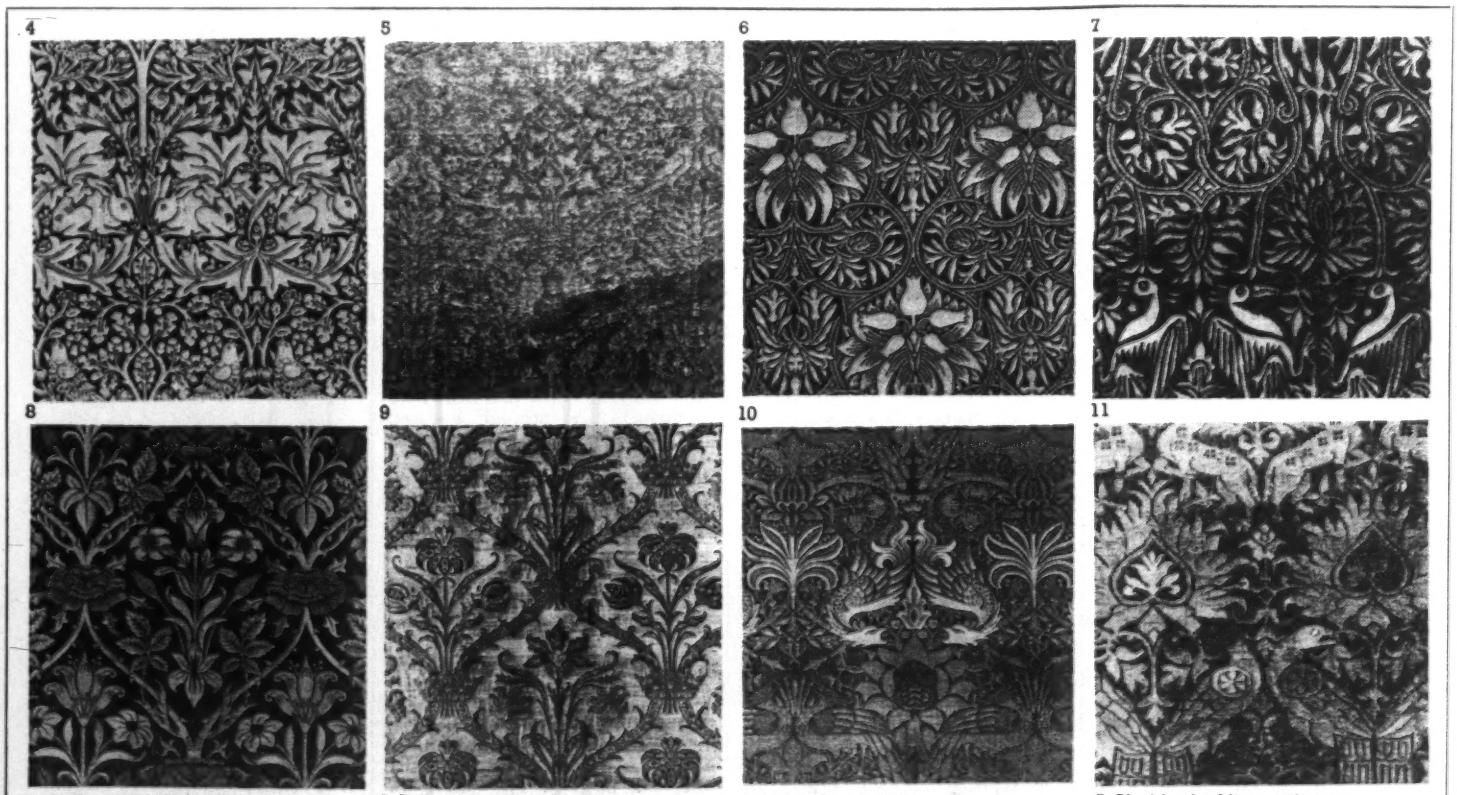
Four juxtapositions showing the extent to which Morris, after 1876, relied for inspiration on textiles in the South Kensington collections.

I. 4, 5, the 'Brother Rabbit' chintz is typical of the rigid style to which Morris suddenly switched in 1876. Note the similarity to the Museum example in the general structure of the design, and especially in the disposition of the birds. Not only does the vertical emphasis in the design reflect the influence of weaving, but in this particular example the way in which Morris has divided the pattern into contrasting horizontal stripes—a light one incorporating the rabbits and a darker one the birds—is much more appropriate to a woven than a printed fabric, and would normally result from the use of additional shuttles to produce alternating bands of colour in the weft.

II. 6, 7, an odd case in which Morris has been inspired not by an early woven textile, but by a fifteenth century printed Rhenish linen, which was itself a cheap substitute for, and based on the design of, a woven fabric. Although the 'Crown Imperial' flower has been substituted for the bird, the similarity is too close to be coincidental. Morris used the same structure for the 'Iris' and 'Bluebell' chintzes (see Figs. 18 and 19).

III. 8, 9, the most direct of all Morris's adaptations of historic textile patterns. Note how all Morris's changes in the drawing of the individual details are in the direction of a greater naturalism—such as the replacement of the crown by a rose, and of the figured ribbon by a thorned stem.

IV. 10, 11, this juxtaposition shows a much freer adaptation. Although the general disposition of the design remains more or less unchanged, the individual details have been transposed. Nevertheless, the similarity in the basic structure of the two designs, and especially in the arrangement of the birds and of the conventionalized flame-like motifs, is close enough to justify the assumption that Morris must have seen, and been influenced by, the Italian piece.



4, *'Brother Rabbit' chintz.* 1882.
8, *'Rose and Lily,' woven silk and wool. c.* 1880.
5, *Italian woven silk. 14th century.*
9, *Venetian silk and gold brocade. 16th century.*
6, *Mohair damask.* 1876.
10, *'Peacock and Dragon,' woven wool.* 1878.
7, *Rhenish printed linen. 15th century.*
11, *Italian woven silk and linen. 14th century.*

FIRST PERIOD 1872-1876

Although Morris issued his first three wallpapers in 1864, he produced no further designs for serial production until 1872 when he recommenced wallpaper designing, and produced nine patterns by 1876. (Although the 'Rose' wallpaper, shown in Fig. 17 below, dates from 1877, it is included in this group as being a particularly clear example of Morris's early naturalistic style.) In 1873 Morris turned for the first time to the design of printed textiles and completed three designs by 1876.

With one exception, all these twelve designs are based on meandering lines, flowing over the surface in loose informal curves, with the structure of the repeats deliberately concealed. The consequent effect of spontaneous growth is emphasized by the asymmetrical, and apparently haphazard, placing of the principal objects, and by the way in which buds and shoots seem to branch off as nature, rather than the formal logic of a repeating pattern, would require. Details of the flowers and leaves are drawn with sufficient naturalism for each to be readily identifiable with a particular species.

12

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17

12, '*Jasmine*' *wallpaper*. 1872.
13, '*Scroll*' *wallpaper*. *c*. 1872.
14, '*Vine*' *wallpaper*. 1873.
15, '*Tulip and Willow*' *chintz*. 1873.
16, '*Willow*' *wallpaper*. 1874.
17, '*Rose*' *wallpaper*. 1877.

SECOND PERIOD 1876-1883

18, *'Iris' chintz*. 1876.
19, *'Bluebell' chintz*. 1876.
20, *'Snakehead' chintz*. 1876.
21, *'Sunflower' wallpaper*. 1879.
22, *'Acorn' wallpaper*. 1879.
23, *'Strawberry Thief' chintz*. 1883.

This was Morris's most prolific period, with eleven wallpapers and twenty-two chintzes. Of these thirty-three designs, only two or three show any sign of the flowing naturalism of the first period, while nineteen are based on a rigid vertical turn-over structure which Morris had never used before 1876. This type of pattern is particularly suitable for weaving but not for block-printing. Morris's frequent use of it during this period can only be explained by his preoccupation with weaving.

The spontaneity of the earlier patterns is now replaced by formalism, and the direct observation of nature by the use of conventional symbols derived from a study of historic textiles. The framework of the design is now emphasized rather than concealed. Instead of flowing naturally across the surface, stalks are now trained to fit into symmetrical ogees and ovals. The drawing of details is now so generalized that flowers and leaves are often not identifiable with particular plants. The contrast with the first period can be seen particularly clearly by comparing the two grape designs (Figs. 14 and 21).

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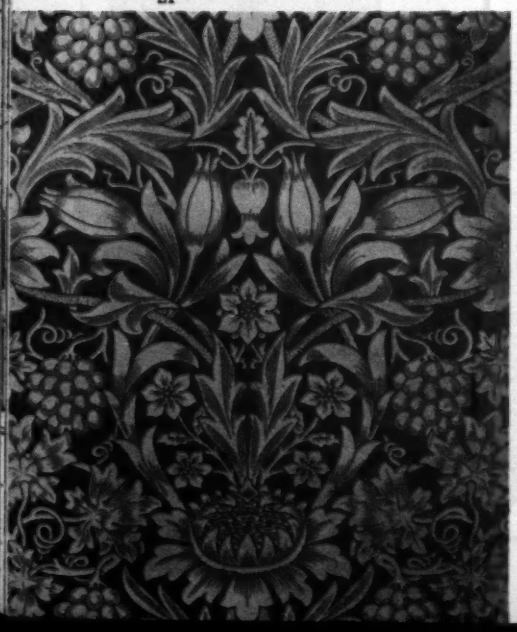

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THIRD PERIOD 1883-1890

During this period Morris designed ten wallpapers and seven chintzes. Nine out of these seventeen designs were based on an emphatic diagonal structure, which Morris had never used before. The only plausible source for this new development is the fifteenth-century Italian cut velvet acquired by the South Kensington Museum in 1883 (Frontis). Morris followed this model not only in the direction and angle of the diagonal, but more particularly in carefully arranging the flowers which grow out on either side of the diagonal stem so that their repetitions form a subsidiary horizontal and vertical grid, which helps to give stability to what would otherwise be a very restless type of pattern. The delineation of the details during this period continued to be conventional rather than naturalistic.

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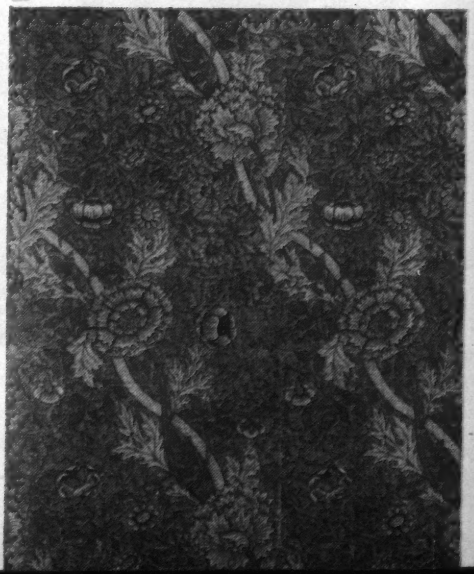

24, *'Wey' chintz.* 1883.
25, *'Cray' chintz.* 1884.
26, *'Wandle' chintz.* 1884.
27, *'Trent' chintz.* 1889.
28, *'Norwich' wallpaper.* 1889.

FOURTH PERIOD 1890-1896

During this final period Morris was too busy with the Kelmscott Press to do much pattern-designing, and produced only ten wallpapers and one chintz. In the majority of these designs there is a return to a somewhat more flowing, less rigid, structure, with particular emphasis on designs with an upward movement swaying from side to side. The diagonal designs of the previous period disappear entirely. A marked characteristic of this last batch of designs is the blending in the same pattern of conventional symbols and naturalistically drawn flowers, or the superimposition of decorative details on naturalistically drawn petals or leaves. Morris appears to be striving to combine a return to his earlier naturalism with the formalism derived from his study of historic textiles. His last design—the 'Compton'—completed a few months before his death, is certainly one of the richest of his entire output.

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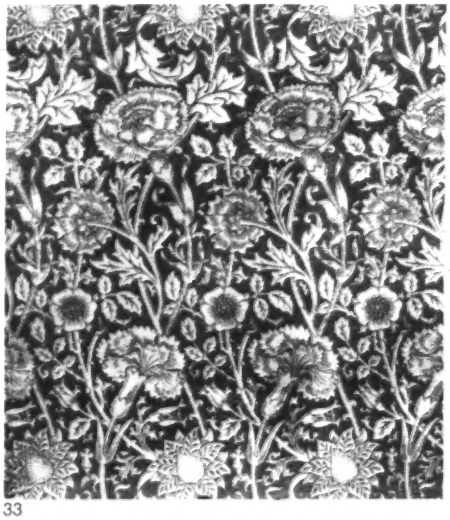

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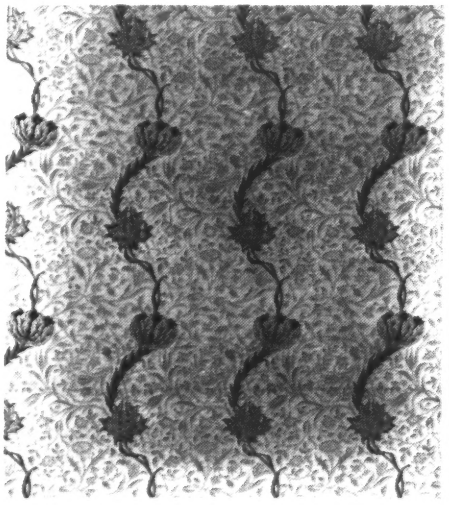

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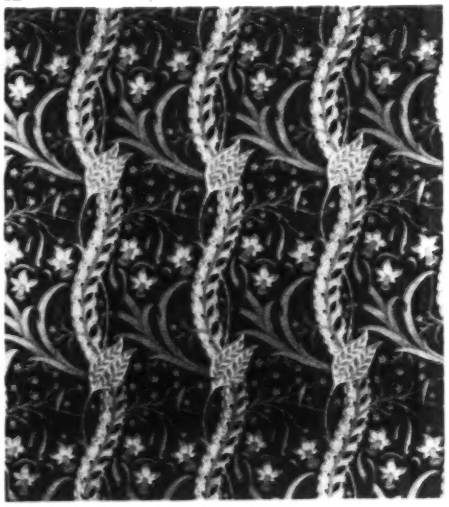

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29, *'Wallflower' wallpaper. c.* 1890.
30, *'Pink and Rose' wallpaper. c.* 1890.
31, *'Trail' chintz.* 1891.
32, *'Daffodil' chintz.* 1891.
33, *'Compton' wallpaper.* 1896. *Morris's last design.*

The new sources used as the basis for this article are the following:—

1. Original pattern-books of Messrs. Jeffrey & Co. giving production date and full details of all Morris's wallpapers as printed by them. Now in the possession of Messrs. Sandersons.
2. Original samples registered with the Patent Office under the Copyright of Designs Acts.
3. Original pattern-books of Sir Thomas Wardle & Co. of Leek, giving full details of those early chintzes printed by them before Morris undertook his own printing. Now in the possession of Messrs. Bernard Wardle of Chinley.
4. Sixty-one unpublished letters from Morris to Sir Thomas Wardle. Now in the possession of Mr. Fred Wardle.
5. A dyeing and printing ledger kept by J. H. Dearle when acting as Morris's assistant at Merton Abbey. Now in the possession of Mrs. Duncan Dearle.

Note.—All wallpapers and textiles are in the Victoria and Albert Museum. All photographs crown copyright reserved.

Nikolaus Pevsner

ROEHAMPTON

LCC HOUSING AND THE PICTURESQUE TRADITION

Standing securely in a modern European tradition of town planning that reaches back into the early twenties, and equally securely in an English landscape tradition that goes back almost two centuries further, the LCC's Roehampton Estate is one of the masterpieces of post-war residential design. In the article below, Dr. Pevsner makes an appreciation of what has been achieved there and the lessons that can be learned from the planning methods employed.

The London County Council's Roehampton Estates known variously as Alton East and Alton West or Portsmouth Road and Roehampton Lane are the largest single housing job undertaken by the Council and one of the largest undertaken anywhere in Europe. It houses or will very soon house a population of 9,500 as compared for instance with Venice-Marghera - Mestre 10,500, Rome - Tusculano 16,000, Milan - Cesate 6,000, Berlin - Hansaviertel 8,000, to name only a few at random.

The area available was 130 acres. Of this the smaller south-east part, called Alton East, was built in 1952–55, the much larger north-west part, Alton West, in 1955–59. The total density for both parts is just under a 100 persons per acre, as against Marghera - Mestre 100, Tusculano 180 and Cesate 175. The 130 acres are rolling country in an ideal position between Putney Heath and Richmond Park and, when taken over, were in the ideal state of mainly consisting of a few fine eighteenth-century mansions in their grounds and many Victorian villas in their gardens. The former were preserved; of the latter as many trees as possible were also saved and made the distinguishing feature of the whole estate. The mansions are partly on the edge of the estate and do not actually belong to it (Roehampton House by Thomas Archer of 1710, Upper Grove House, now the Froebel Institute, of 1779), but are partly also inside the estate (Downshire House by Brettingham of *c.* 1770) and indeed in very important positions. This applies in particular to Manresa House, the Jesuit College, which was built by Chambers in 1750, Mayfield Convent (1939, neo-Georgian) and Mount Clare of 1772–80. Mount Clare and Downshire House, one white the other of dark brick, have been taken over by the London County Council and will be used for some public purpose.

Apart from these buildings of yet undetermined function, the Roehampton estates contain few buildings dedicated to anything other than dwellings. There is a tenants' club at Alton East and a club-room and warden's house for the old people's houses at Alton West. There was already a recent primary school in Alton Road before the estate was begun, there are two more on the Alton West part, and there are going to be a big secondary school as well, several small nursery schools, a small (too small ?) community centre and a public library and shops. The main shopping centre is going to have sixteen shops in all. Two subsidiary shopping terraces, one in Bessborough Road, the other near the middle of the estate, will account for another twelve. That must seem preposterously little for nearly ten thousand people, but it ought to be remembered that the Roehampton estates lie alongside the old village centre of Roehampton with its long-established shops. In this old centre are also the church, a big building by Fellowes Prynne with a commanding spire, and a number of pubs. The new estate has sites reserved for a small church and a non-conformist chapel. The library has not yet been started, but will be in operation in 1961. It forms a precinct with the two main terraces of shops and one ten-storey block also still on paper. Otherwise the estate is now more or less ready, except that turfing and planting will still go on this year.

The housing consists of twenty-five point-blocks in three groups, five eleven-storey slabs of maisonettes, a large number of terraces of four-storeyed maisonettes, a smaller number of terrace houses, mostly of two storeys, and a number of single-storey old people's houses. The high buildings are of reinforced concrete, the maisonettes and terraces essentially of traditional construction.

The plan is characterized by the absence of any centre in the academic sense. If a centre can be named, it would be the rising lawn of Downshire Field, a negative, picturesque, informal centre. How it is reached, how the groups of point-blocks are experienced variously, can only be appreciated in the form of a perambulation, and such a perambulation has been attempted on pages 24, 25, and will be made more persuasive by the accompanying pictures.

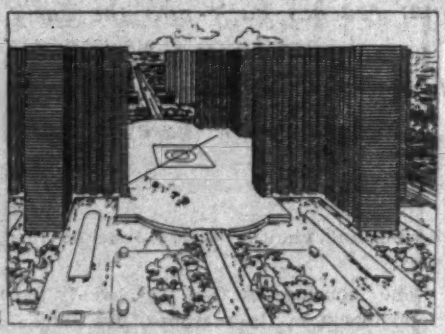
The elements which make up the character of this vast, yet not inhuman, composition are the point-blocks and the high slabs, the mixture of high and low and the placing of all the buildings in landscape. To appreciate what the London County Council has made of these elements, their origins must now be considered, and their handling by others who used them before the Roehampton Estate was planned. For this purpose the elements must be examined singly.

At the beginning as well as at the end of the pedigree of Roehampton stands—as in many other aspects of twentieth-century

architecture—the great and elusive figure of Le Corbusier, a stimulus as well as a danger.

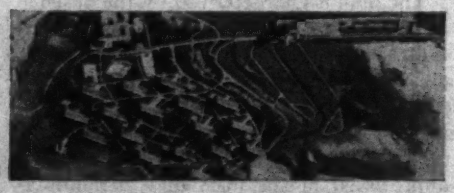
1

His *ville contemporaine* of 1922, 1, established the vision of twenty-four identical skyscrapers rising above uniform lower blocks. The layout is rigidly formal and symmetrical, a Versailles for the three million people of a twentieth-century city. Only parks and gardens are treated freely and picturesquely, but, it seems, without much attention or gusto. The *plan voisin*



2

of 1925, 2, has more of that, at least in the perspectives, but the general rigidity remains in spite of the fact that now this absolutist pattern was to be imposed on the centre of Paris. No compromise of existing features and new features is tolerated. In a later more concrete planning scheme, that for Nemours of 1935, 3,



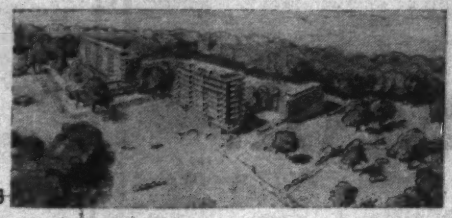
3

Le Corbusier used in addition about twenty high slabs in staggered tiers.

Meanwhile Sweden had started from the other end. The Co-op estate on the island of Kvarnholm near Stockholm planned by Olaf Thunström in 1927, 4, was informal, sympathetic to the rock and pine landscape and combined mill, elevators and different types of housing in a happy

4

ensemble. Whether Gropius and Maxwell Fry knew of this when, in 1935, they made their plan for an Isokon estate at St. Leonard's Hill near Windsor, 5, is not recorded. It does not seem necessary to

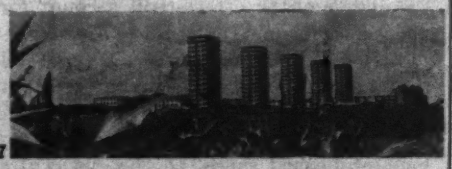


5

assume it; for the *genius loci* of England certainly acted with vigour on Gropius, and the idea of a picturesque English estate endowed with modern instead of Palladian blocks might well have appeared independently.[1] The buildings here are two eight- or nine-storeyed slabs and one lower range at right angles. That the AA boys who put forward their splendid and astonishing scheme for Faringdon in 1938,[2]

6

6, had studied Gropius's project goes without saying. Theirs is larger, more varied and remarkably prophetic with its mixed arrangement of high and low ranges and its intelligent use of the landscape elements of the site. Here for the first time we seem to move in Roehampton surroundings.



7

In the years between Kvarnholm and St. Leonard's Hill, in 1932–33, Baudouin & Lods had built their bleak estate of fifteen-storeyed point-blocks and three-storeyed blocks at La Muette, Drancy, 7—an estate of 1,200 flats—and in Holland J. F. Staal had erected a single point-block at Amsterdam[3] and van Tijen, Brinkman and van der Vlugt a single high slab at Rotterdam.[4] The point-block as such was no innovation, nor was the high slab. Dr. Sekler in his excellent little book on *Das Punkthaus*[5] very prettily traces the conception back to Chambord and illustrates an eight-storeyed point-block by Hoeger of Hamburg dated 1911. High blocks of flats go back even in England at least as far as Queen Anne's Mansions in London with its fourteen storeys (1876–1888 by E. R. Robson of the London Board Schools), and high slabs—still in severely parallel lines—were Gropius's recommendation at the CIAM Congress of 1930.[6]

During the war these various themes were worked through with much intelligence and understanding in Sweden, one of the few countries in which building continued. Here, in 1942–45, amongst other things, the *parti* of clusters of point-blocks was developed. Among the earliest is Backström and Reinius's Danviksklippan, 8. In

8

these schemes architects learned to appreciate the effect of grouped skyscrapers arranged in an orderly, not a chaotic American, fashion. But not one of these wartime schemes in Sweden is on a really large scale.[7] Yet one can be sure that they form the principal inspiration for English work after the war.

So only two more jobs are needed to complete this pedigree of Roehampton:

[continued on page 35

[1] See THE ARCHITECTURAL REVIEW, vol. 77, 1935, pp. 188, etc.

[2] Their names were: Planning: Elizabeth Chesterton, P. L. Cocke, R. V. Crowe, D. Duncan, A. Foti, P. M. Thornton, J. Wheeler. Housing: A. J. Brandt, R. L. Davies, D. S. Gladstone, J. C. de C. Henderson, A. W. Nicol, P. Saxl, F. L. Sturrock. See *Focus*, No. 1, 1938.

[3] Daniel Willink Plein, 1931.

[4] Berggolder Flats, 1934.

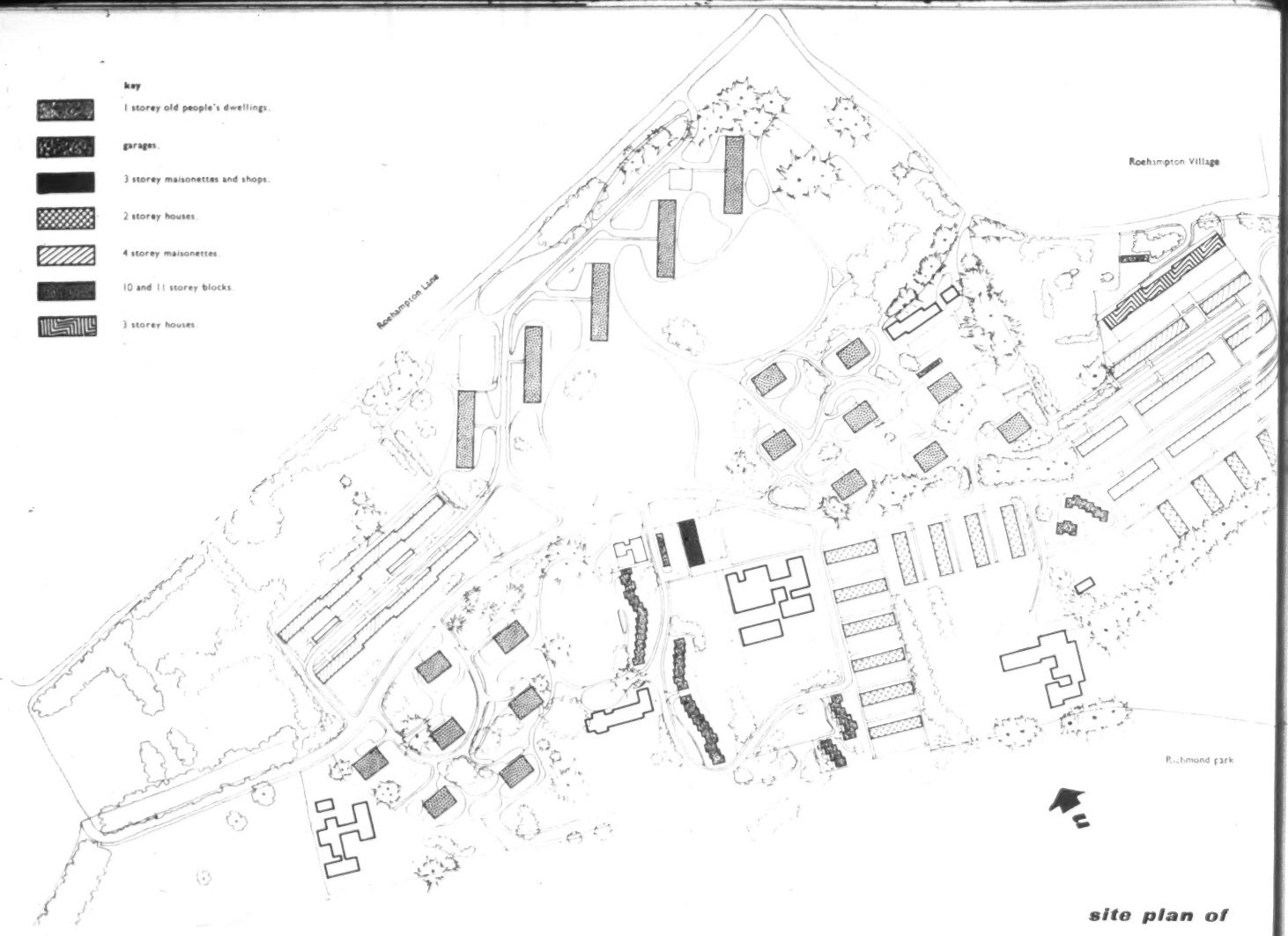
[5] Vienna, 1952.

[6] *Rationelle Bebauungsweisen*, Frankfurt, 1931, p. 30.

[7] The largest probably is Reimersholm by Forbat & Egler with 888 flats.

On the facing page, Alton East, 10, and Alton West, 9, the two parts of the Roehampton Estate. The planning in landscape is the same for both, the architectural character is different. Here lies one of the critical problems of the estate.

9 → 10



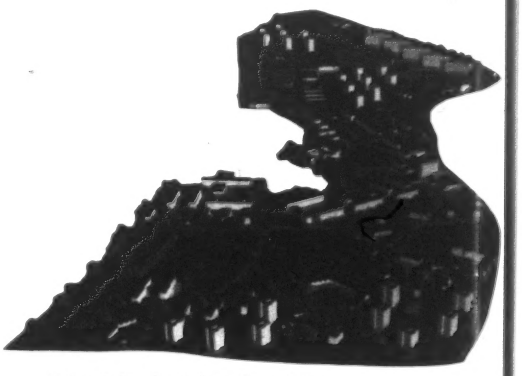
site plan of

PERAMBULATION

The plan can be described as follows; appreciation and criticism are given in the accompanying article. There is no centre in the sense of academic planning. Instead there are three principal nuclei: the three groups of point-blocks. The first (and earliest) stands at the corner of Portsmouth Road and Roehampton Lane dominating in a most exhilarating way the main approach to London along A.3 and holding out hopes of a new London which the foreign visitor, arriving by car from Southampton via Alton, the Hog's Back and Guildford, will hardly see fulfilled. Below that eminence to the west are terraces of maisonettes and cottages. They are of brick partly rendered white and partly in colours, have gently pitched roofs and are grouped variously without any attempt at axiality. They hide successfully in the old trees which also rise between the point-blocks. This scenery, both urban and arcadian, extends as far as Alton Road beyond which, to the north-west, the character changes. Here is the boundary between Alton East and Alton West.

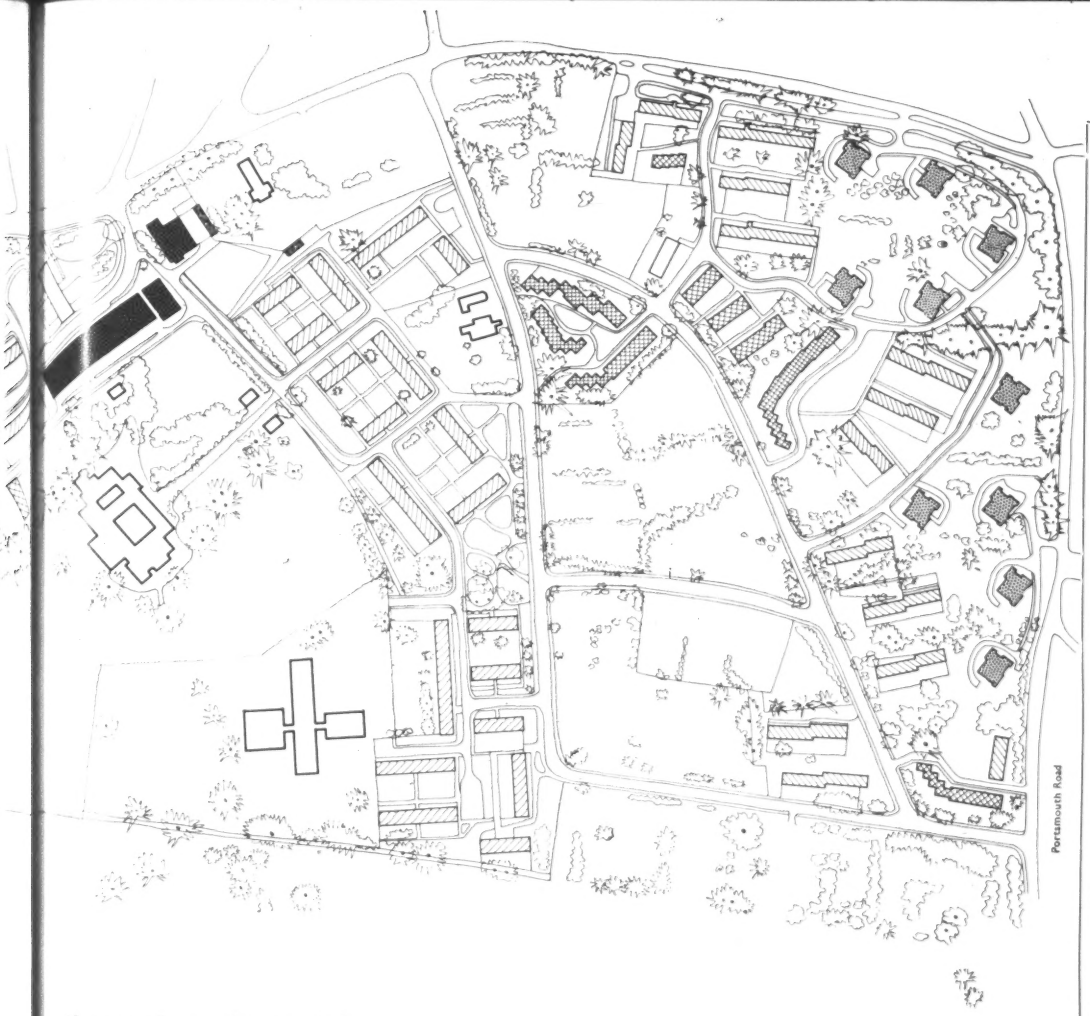
Alton West should be approached from Roehampton Village; that is, after having completed the loop of Roehampton Lane—Portsmouth Road—Alton Road, a little further north along Roehampton Lane. Here, just opposite the weather-boarded King's Head, is the shopping centre, which will dominate more than it does now when the one point-block is erected as a beacon and the library with its low domes extends from it to the south-west. The two shopping terraces stand at right-angles to each other at the entrance to Danebury Avenue, a short street but lined on both sides by long terraces of maisonettes, somewhat like a Georgian street, says the London County Council. This attempt at a central axis is, however, foiled by the shortness of the street and the anti-climax at its end which is no more than a staggered terrace of single-storeyed old people's houses. The Manresa estate is behind to the south and to its east are three groups of maisonettes again arranged in themselves axially, each with three ranges around an oblong centre. The windowless brick end walls of the blocks speak very eloquently. The trees and the rolling contours are in contrast to this layout. To the north behind Danebury Avenue are more lines of four-storeyed maisonettes with behind them one row of three-storeyed houses of almost identical external design.

Then the axis swings round a little and one approaches the centre of Alton West. Mayfield Convent, placed higher than this central part, rises with its neo-Georgian front to the south behind rigidly arranged lines of two-storeyed houses with their walled back gardens. But to the north are eight of the later type of point-blocks, all identical. This group faces to the west towards an area which is to be important but is not fully developed yet and can hardly ever become a visual climax. The primary



Model of the scheme, from the south-east

Alton East from the air



the roehampton estate

school lies back a little and is low. The site for the nonconformist chapel is small and so is that earmarked for the community centre.

Also the whole group will have to compete with the scale opposite to the north where the real climax of Alton West lies: Downshire Field, a spacious rising lawn with the dramatic, hard-hitting rhythm of the five high slabs set at an angle along the top. Downshire House appears in the distance between slabs and points as one approaches the end of this central area and looks back. Finally, after a glance at the chaste façade of Mount Clare to the south-west, the west corner towards Richmond Park forms the end of the perambulation, with the third group of point-blocks, another low school and another axial line of maisonettes (Sherfield Gardens).

credits

Architect to the Council: Hubert Bennett in succession to Professor Sir Leslie Martin.

Deputy Architect: F. G. West.

Principal Housing Architect: H. J. Whitfield Lewis.

Senior Planning Officer: L. W. Lane in succession to A. G. Ling.

Architects in Charge: Alton East
M. C. L. Powell
A. W. Cleeve Barr
O. J. Cox
Mrs. R. S. Stjernstedt

Architects in Charge: Alton West
K. J. Campbell succeeding M. C. L. Powell.
C. A. Lucas

Architects: Alton East
J. N. Wall
H. P. Harrison

Architects: Alton West
J. A. Partridge
W. G. Howell
J. A. W. Killick
S. F. Amis
J. R. Galley
R. Stout

Principal Quantity Surveyor: M. F. Rice.

Chief Engineer: J. Rawlinson.

Consultant Structural Engineers: Alton East. Ove Arup and Partners.

Consultant Structural Engineer: Alton West. W. V. Zinn.

Consultant Heating Engineers: Alton East. Oscar Faber and Partners.

Consultant Heating Engineer: Alton West. Chief Engineer to the LCC.

Quantity Surveyors: William C. Inman and Partners.

typical gross rents

Alton West

Point Blocks: 58s. 9d. to 71s. 6d.

Maisonettes: 53s. 6d. to 69s. 9d.

Terrace Houses: 63s. 6d. to 64s. 9d.

Old People's Dwellings: 28s.

Alton East

Point Blocks: 40s. 1d. to 75s. 5d.

3 Storey Flats: 25s. to 34s. 5d.

Maisonettes: 45s. 9d. to 58s. 4d.

Cottages: 57s. 1d. to 62s. 7d.

techniques

Alton West (Roehampton Lane)

nearly 100 acres 1,867 dwellings

Proportions

Point blocks	c. 35%
Slabs of maisonettes	c. 18%
Maisonettes two- and three-storey terraces and single-storey old persons dwellings	c. 30%
	c. 17%

Accommodation

Point blocks
12 storey. Each floor, two 3-room and two 2-room flats.

Slabs of maisonettes
11 storey. Living room and working kitchen and 2 bedrooms.
One 10 storey of flats and maisonettes not yet built.

Maisonettes
4 storey. Living room, dining-kitchen and 3 bedrooms.

Terraces
3 storey with 3 bedrooms, 2 storey with 4 bedrooms.
Single storey with one bed-sitting room.

Construction

Point blocks
r.c. frame.
precast cladding.
precast floor beams, staircases.

Slabs of maisonettes
alternating r.c. frames and load bearing r.c. cross walls.
precast cladding.
precast floor beams, staircases.

Maisonettes
load bearing brick cross walls with timber and glass infill panels.
r.c. floors and roofs.

Terraces
load bearing brick cross walls with timber and glass infill panels.
timber floors.

Alton East (Portsmouth Road)

28 acres 744 dwellings

Proportion

Point blocks	c. 57½%
Maisonettes	c. 32½%
Two storey terraces	10%

Accommodation

Point blocks
11 storey. Each floor three 3-room plus one 2-room flat.

Maisonettes
4 storey. Living room, dining-kitchen, 3 bedroom.

Terraces
2 storey. 3 and 4 bedroom.

Construction

Point blocks
externally r.c. columns and beams
internally r.c. load-bearing internal walls.
brick cladding.
ground floor, strong colours and tiles.

Maisonettes
load-bearing brick cross walls.
brick facings for external walls.
pitched roofs.
r.c. floors.

Terraces
traditional brick construction with pitched roofs.
Colour much used externally.

11

13→

ALTON EAST, ROEHAMPTON

11, 12 and 13 (opposite), three views of Alton East, showing the three contrasts on which the aesthetic success of the estate depends: high and low, trees and building, curved and straight. The buildings in this case are point-blocks, four-storeyed blocks of flats and two-storeyed cottages.

12

14

ALTON EAST, ROEHAMPTON

14 and 15, according to how the photographer places himself an urban effect can be experienced or one belonging to the tradition of the English garden suburb.

15

16. two of the most thrilling views of the Roehampton Estate are that of Alton East from the approach to London on the Portsmouth Road and that of Alton West from Richmond Park illustrated above.

ALTON WEST,

17

key
1, living room
2, kitchen
4, bedroom
5, bathroom
7, balcony
8, lift

40 20 0 10

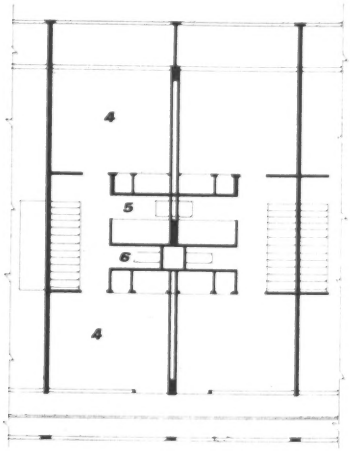
point block, first floor plan

ROEHAMPTON

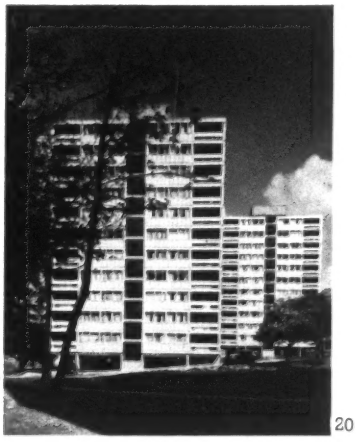
17, 18, *the point blocks of Alton West are sheer (top), where those of Alton East,* 14, *had recessions and projections. They are faced with concrete aggregate where those of Alton East were faced with light brick. The purely architectural character is more exciting and in the high slabs of maisonettes more ruthless. The trees and the winding walks between the point blocks help to mellow the squareness of the architecture, just as the spacious sloping-down lawn of Downshire Field introduces curves and a lush colour to set off the slabs.*

18

19



maisonette, upper floor



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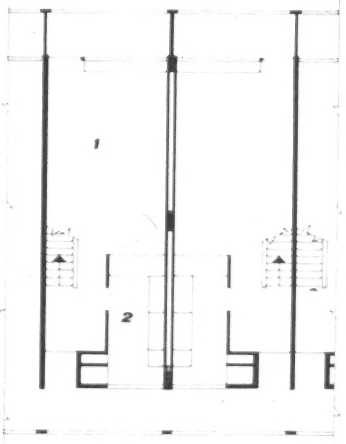


30 0 10

maisonette, lower floor

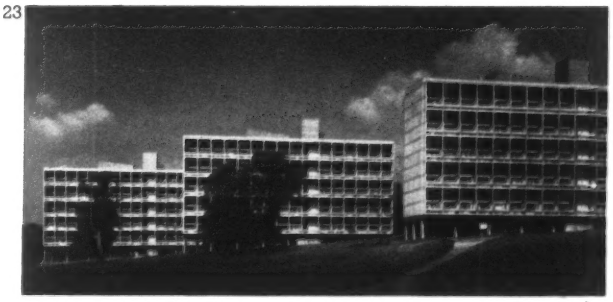
key
1. living room
2. kitchen
4. bedroom
5. bathroom
6. w.c.

21

19, 21 and 22 and 23 (facing page), the relations of the point blocks to each other and of the slabs to each other varies according to one's viewpoint, a matter of course, but one taken into consideration at Rochampton with much intelligence and sensitivity.

22

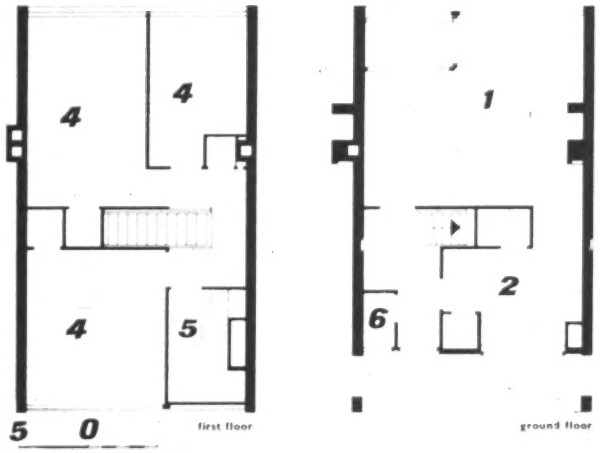
23



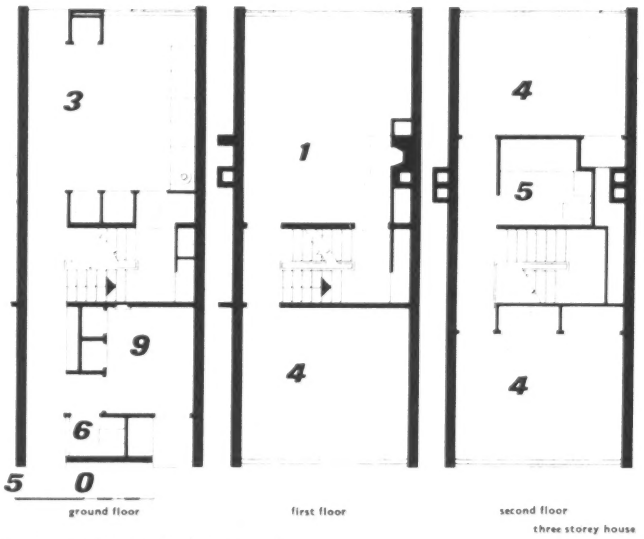
ALTON WEST, ROEHAMPTON

24

24, the boiler plant is close to one of the high slabs (see plan). Its roofscape and its tall chimney appear in this view, demonstrating the fruitful influence on Alton West of Le Corbusier's recent style, and in particular the Marseilles Unité.



maisonettes in four storey blocks



three storey house

ALTON WEST, ROEHAMPTON

25, the staggered line of the old people's cottages in the foreground; point-blocks behind.

26 (opposite), one of several identical rows of cottages. They are placed rigidly in parallel lines with exposed bare brick end-walls and garden-walls.

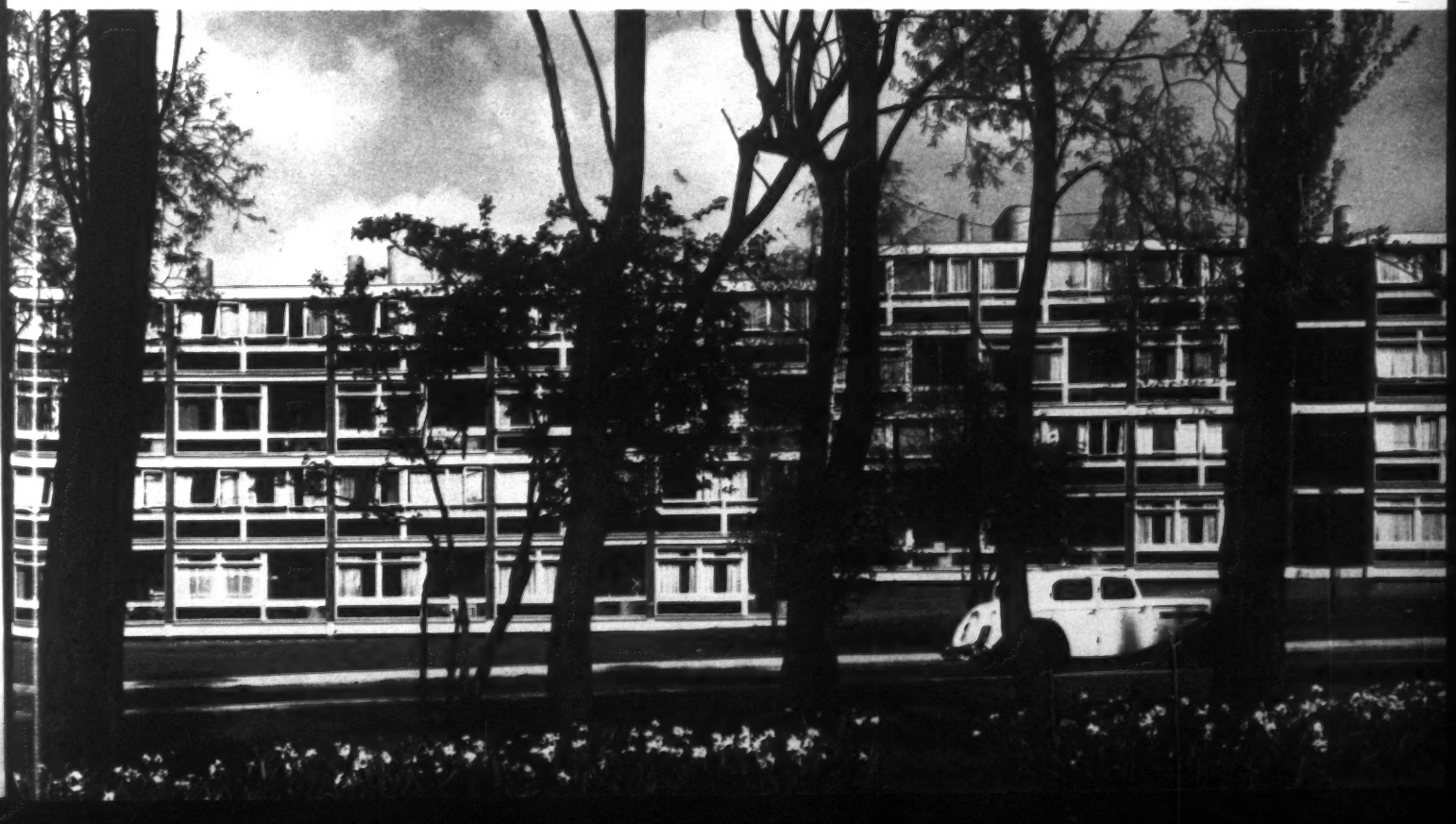
27 (lower picture opposite), the long terraces of maisonettes along Danesbury Avenue. More of these, again rigidly in parallel lines, are behind it to the north.

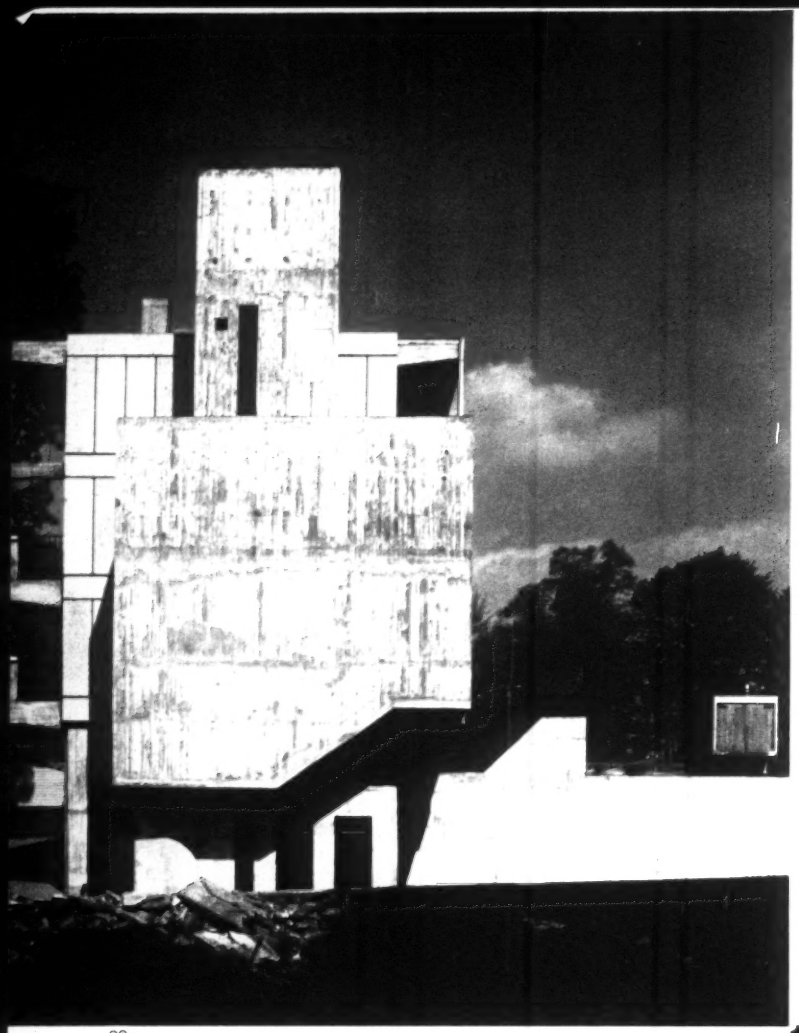
26 → 27

25

key
1, living room
2, kitchen
3, dining kitchen
4, bedroom
5, bathroom
6, w.c.
9, store

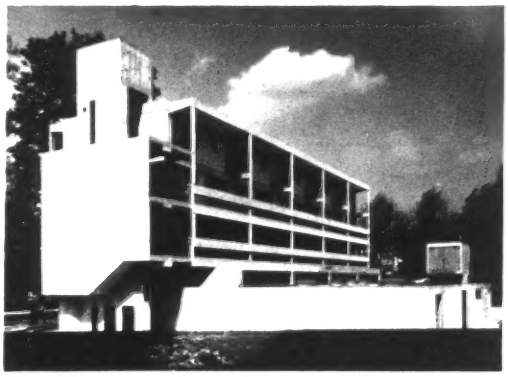
two storey house





28

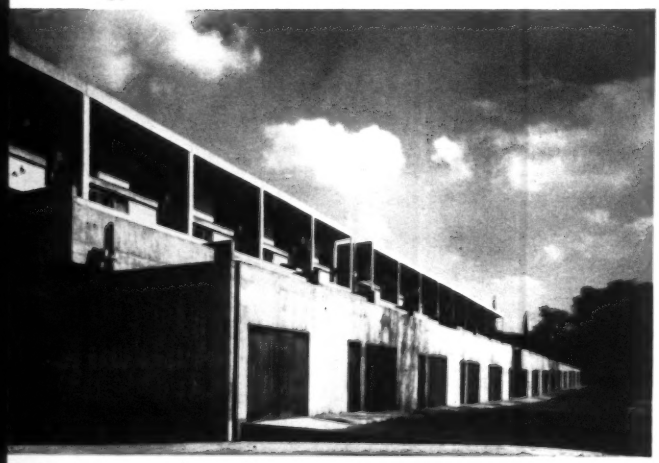
ALTON WEST, ROEHAMPTON

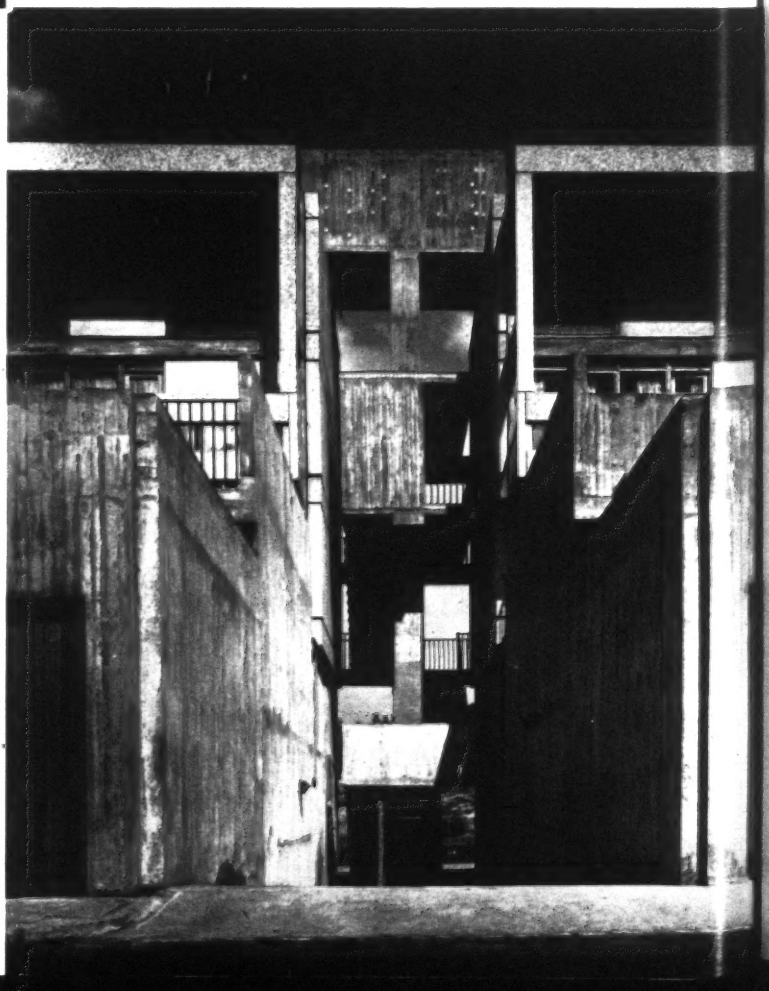


29

28–31. *brutalism is a label which ought perhaps to be avoided. Yet the details of the end walls and the backs of the shopping terraces at Roehampton have that pride in* beton brut *and that delight in chunky shapes which justifies the term in reference to Le Corbusier at Chandigarh and to this most recent part of the Roehampton Estate. The composition of the shopping area will only be complete when, in addition to the two terraces, a ten-storeyed block has gone up and a branch library with a series of low domes.*

30





31

continued from page 22]

32

Frederick Gibberd's The Lawn, Harlow, 32, of 1950, carried out with one ten-storeyed block surrounded by lower terraces but designed to repeat this pattern several times, and the London County Council's own Ackroydon estate at Wimbledon, 33, only three-quarters of a mile across Putney Heath from Roehampton. This was begun early in 1951, when Robert Matthew was architect to the Council and Leslie Martin

33

his second in command. When the Alton Estate, that is Alton East or Portsmouth Road, was begun in 1952 he was still in charge. But in the course of 1953 Leslie Martin took his place and remained until after most of the Roehampton Estate had been designed and much had been built.

It has already been said that the Roehampton Estate is one of the largest planned estates of Europe. It must now be added that it is also the one planned by the largest architectural office of Europe. In the Architect's Department at County Hall a staff of about two and a half thousand is at work, including about five hundred trained architects. Of these the housing department employs about two hundred and fifty. It remains a mystery how so large a staff can produce so unified a style. On the other hand it can perhaps be said that, if this style is not uniform, although it is unified, the multitude of talents working in the department is perhaps the reason. Even so the conception of the estate and of each type of building must ultimately be one man's and who this man is, we don't know. What is certain, however, is the brilliance of the conception and the eminent skill of the execution. There is much to be said in favour of the opinion demonstrated by the last Milan Triennale which gave Roehampton one of the central positions in the section dealing with recent housing all over the world. The Hertfordshire schools have made history for England in one way; Roehampton is making history now in another.

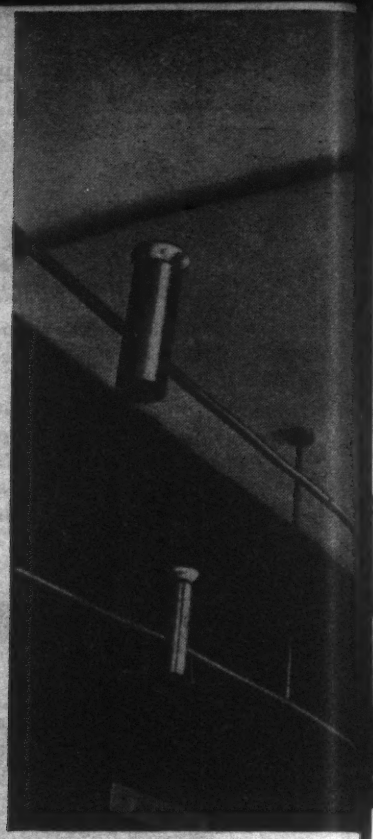
Whatever the sources of its planning and architecture, the combination of the two is highly individual and moreover eminently English. The setting of a cubic type of building in landscape is eighteenth-century tradition and has once before made a deep impression everywhere abroad. The informal but highly thoughtful grouping of buildings is equally English and has established Bath as the opposite of Nancy in eighteenth-century town planning. Benefiting from this civilized Georgian tradition the architects of the Roehampton Estate succeeded in combining human scale with vast extent—a feat no French nor any Italian or Dutch architect has been able to achieve. The effects accomplished at Roehampton range from the cosy to the violently startling.

But although humanism and variety are the hallmark of the whole scheme they are not active equally in all parts. In fact there is a very noticeable change between Alton East and Alton West. It is patent in the architectural design and affects the relation of buildings to plan. The earlier point-blocks are faced with pale cream brick and have lively projections and recessions in outline. The earlier maisonettes and cottages have roofs of gentle pitch. The whole combines perfectly with the picturesque plan, the winding streets and informally placed trees. It is architecture at ease. The later architecture is exacting. It is highly intelligent, concentrated, of great integrity, crisp and precise. The point-blocks are completely flat in their elevation. Nothing must stick out. The maisonettes have flat roofs and windowless end walls and the slabs are extremely interesting but unquestionably ruthless in their rhythm. In fact, if the foreign source of Alton East was Sweden, the foreign source of Alton West is the *Unité* at Marseilles. This was finally completed in 1952, shortly before Alton West was designed. The *Unité* is one block only, but more were intended, and we have already seen that Le Corbusier, in other schemes dating back to 1935 had suggested rows of staggered high slabs.

Whether the change in the architectural style of the Roehampton buildings was due to the change from Robert Matthew to Leslie Martin or to the change in the team of young designers cannot be stated with certainty.[8] The team on Alton East had been Michael Powell, Cleeve Barr, Oliver Cox, Mrs. Stjernstedt, J. N. Wall and H. P. Harrison. On Alton West it was Colin Lucas, John Partridge, W. G. Howell, John Killick, S. F. Amis, J. R. Galley and R. Stout. The truth in such matters of the creative contribution in team work is probably one of cross-fertilization. That the design of the buildings at Alton West is one of the best produced in England in the last ten years there can be no doubt. That the design of the buildings of Alton East was less outstanding, in the literal sense of the word, can also not be denied. But the earlier part of the estate has a humanism which in the newer part has admittedly not become brutalism—though in the end elevations of the shopping terraces there is more than a touch of the deliberate violence of the brutalists—but has lost some of the suppleness of movement. There is less variety in the architecture and more *unité*, as it were, and this instinctive refusal to compromise with sentimentality has created a conflict between the site and layout and the architecture. The site and layout, taking it all in all, have remained picturesque, but the buildings are so rigidly lined up that they call for a rigid general plan as well, and so the terraces to the north of Danebury Avenue and parallel to it, and the other areas of completely parallel development, endanger the greatest visual attraction of Roehampton, the asset which distinguishes the estate from any abroad. This warning, it must be understood, does not apply to Downshire Field, the open space with the point-blocks on the east and the slabs as a backdrop to the north. Here the rigidity of the individual building is poignantly contrasted with the undulations of the terrain and the lawn. So here contrast adds to enjoyment, and, what is more, this particular contrast is one badly needed in the architectural situation of today.

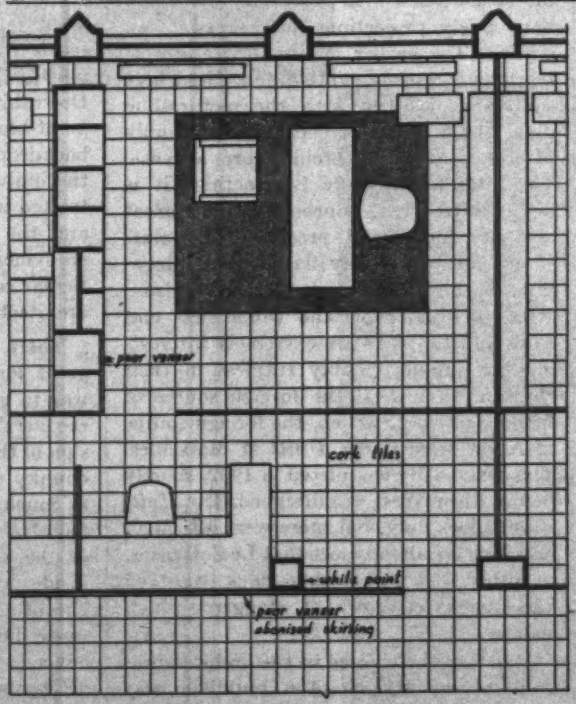
There has been, as everyone knows, a great longing among architects after the war to get away from rationalism and to recover fantasy. Ronchamp is as much a sign of this as the Neo-Liberty of Italy, the chunky concrete of the English brutalists as much as the chequerboard patterns of fenestration of the English non-brutalists or the arbitrary patterns in screen walls inside and outside the Americas. Roehampton demonstrates the possibility of up-to-date sanity. It is not necessary to cover the surfaces of buildings with arbitrary bits. Planning and siting ought to serve the purpose of creating that sense of variety, contrast and relief which everyone wants. Buildings can remain rational, as they ought to, if they are sensitively grouped and if they are placed in juxtaposition with lawn and trees. That is what distinguishes the best mid-twentieth century schemes from those of the twenties and thirties.

[8] The Deputy Architect, F. G. West, the Principal Housing Architect, H. J. Whitfield Lewis, and the Senior Planning Officer, L. W. Lane, were the same on both parts.

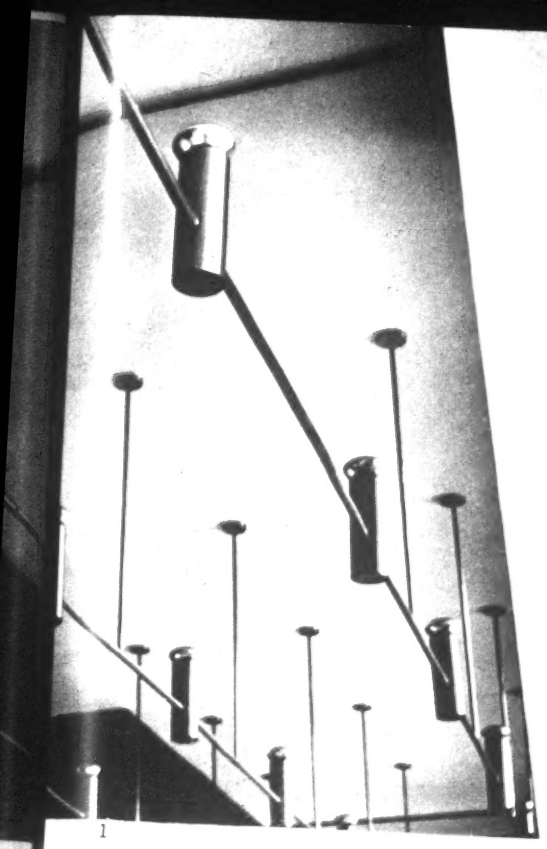


ID

a monthly review of interior design



Offices in Hanover Square, London



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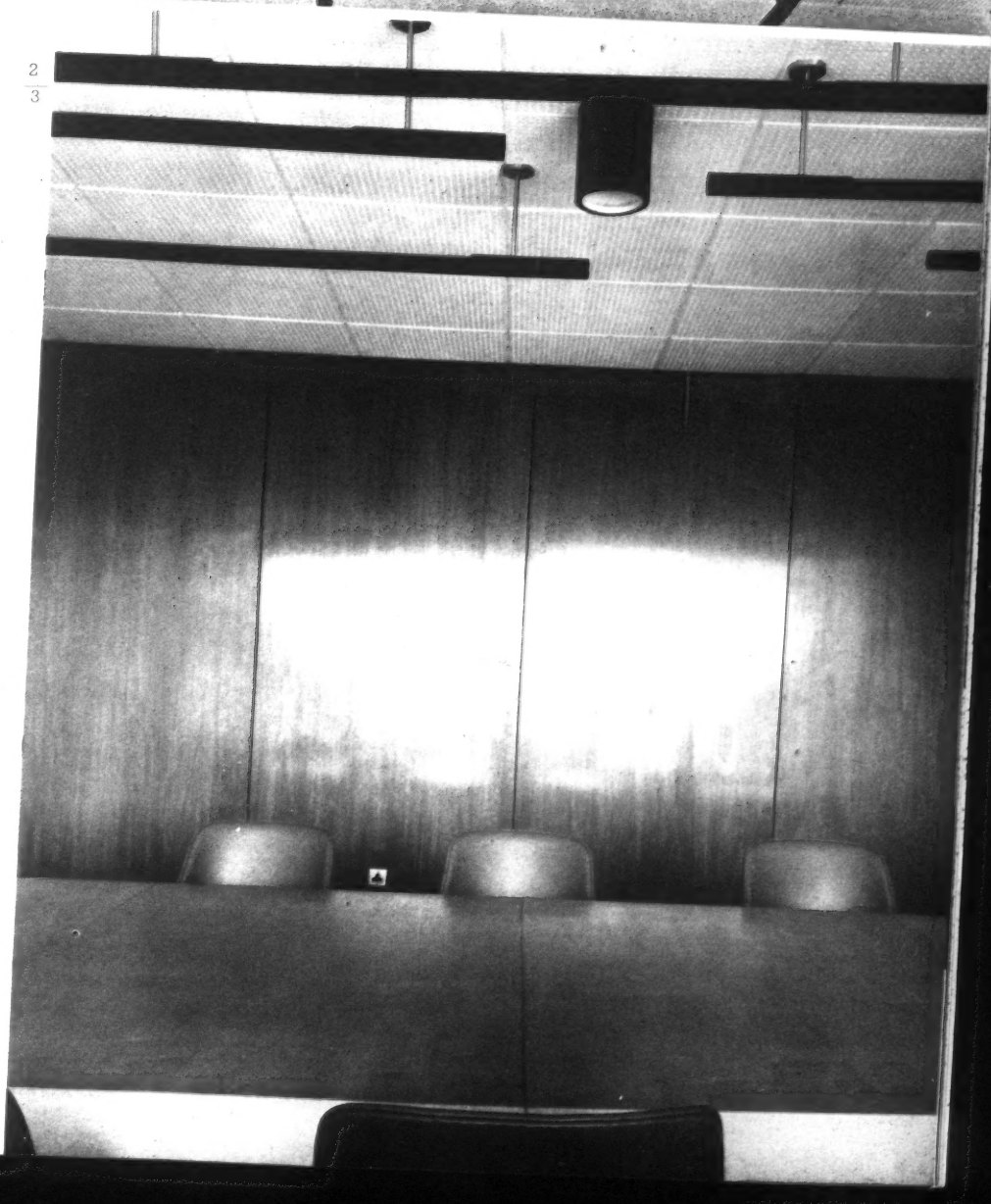
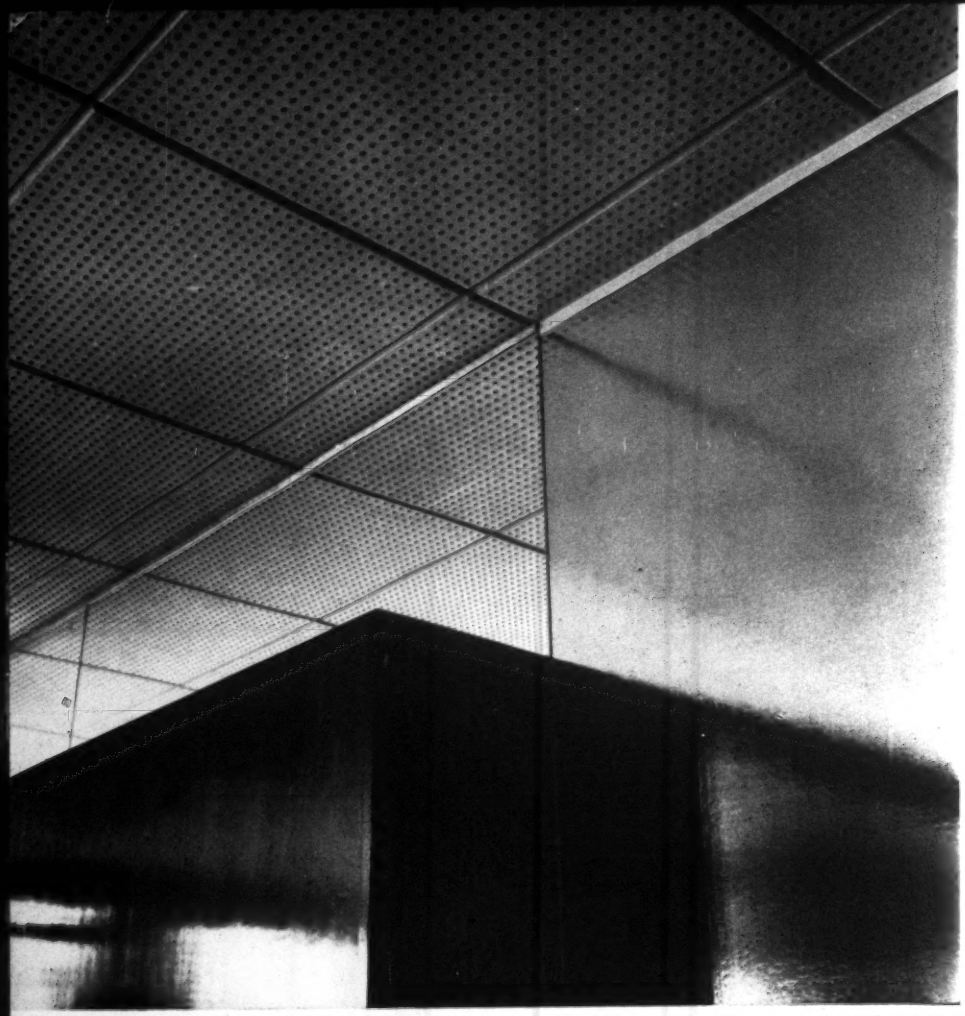


3

London offices for an international fashion magazine, and its associated publications, had to be inserted in the upper floors of a building already in construction, and permitting few modifications to the frame (except on the top floor, to give increased space for studios), with the result that the planning tends to follow the existing structural grid (see plan on next page).

In order to establish the firm's character from the moment the visitor enters the building, the architects of the offices also partly re-designed the entrance hall. These ranks of light-fittings, 1, designed by Bernard Schottlander span the hall between mirror-walls that repeat them optically to infinity.

2 and 3, the boardroom, lit by a mixture of upward-directed fluorescent tubes and downward-directed spots, has its rear wall panelled out in the special storage units, here faced in pearwood veneer, devised by the architects in collaboration with Andrew Pegram, and used, with variations, throughout the scheme.



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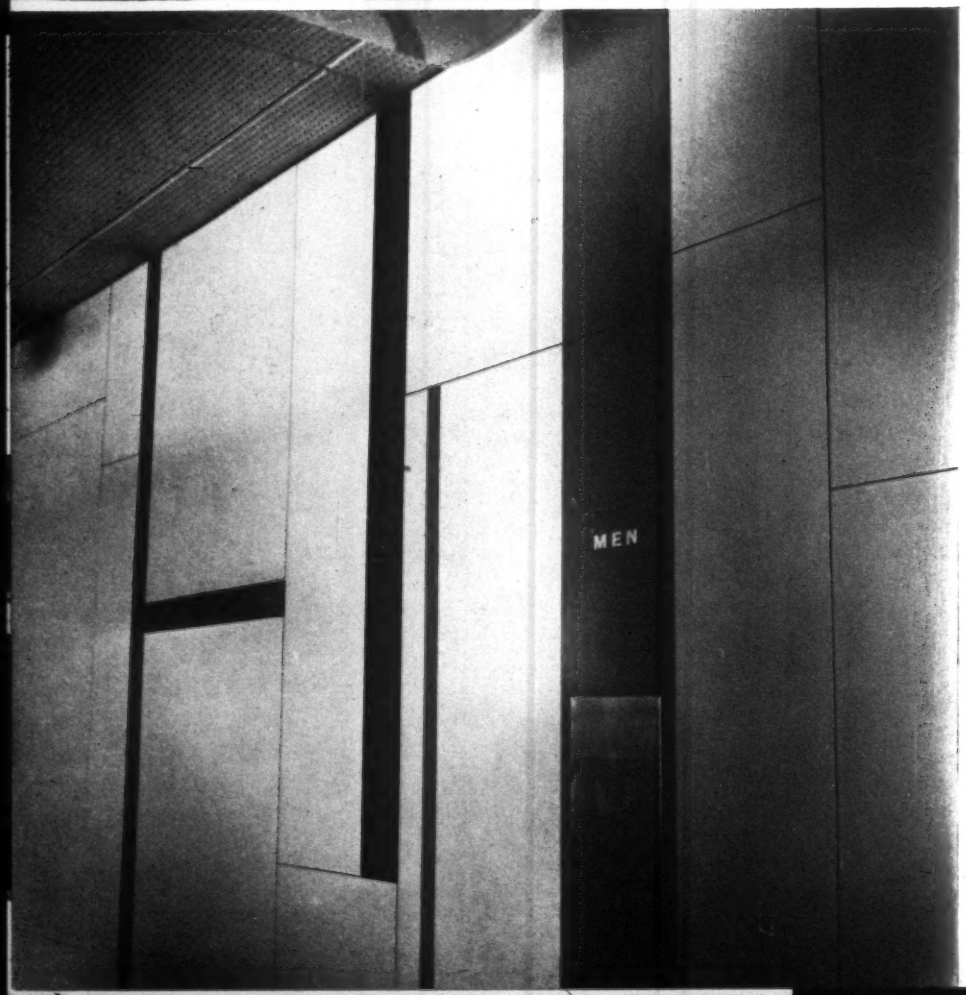

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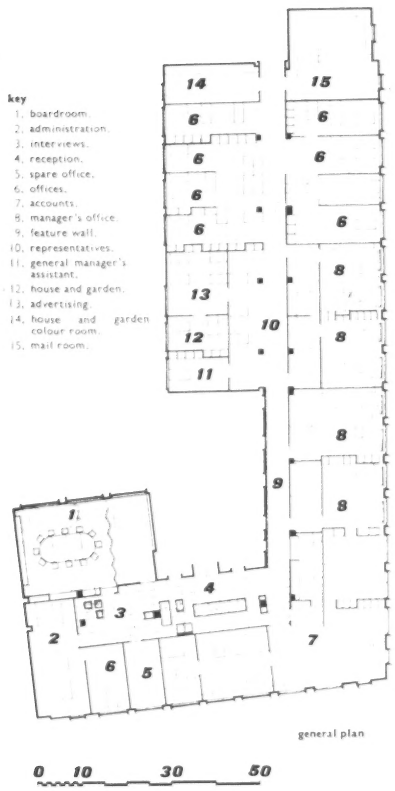
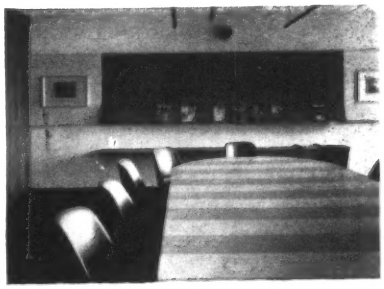


general plan



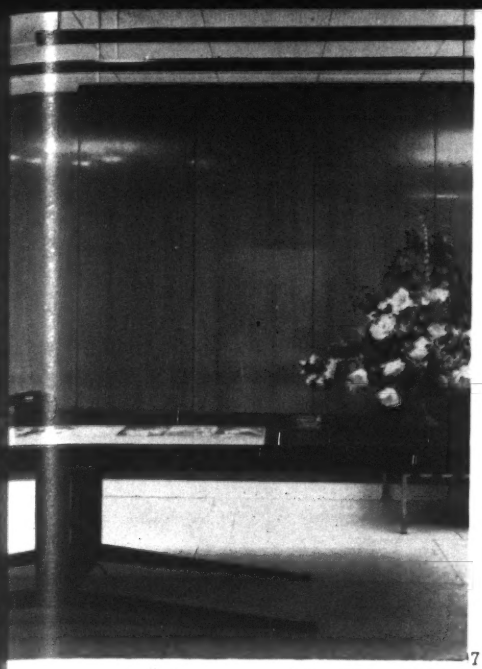
6

4, to preserve a sense of openness and light, partitions not made of storage units are in clear or obscured glass. This detail shows the junction of cupboards, glass and ceiling.

5, an abstract pattern of horizontals and verticals helps to 'lose' the lavatory doors in the corridor-wall opposite the executive offices.

6 and 7, the large tables on metal legs in the boardroom, 6, and reception-area, 7, opposite, were purpose-designed by the architects, as were the directors' desks, of which one is seen in part in 8.

8 and 9, opposite, the degree of visual continuity of the office spaces obtained by the use of glass in the partitioning is well shown here. In 8, the pattern of acoustic tiles and light-fittings can be seen extending across the ceiling of the next office. In 9, the sheet of obscured (unpolished plate) glass, though sufficient to secure privacy, still permits vision enough to emphasize the continuity of adjoining office spaces.



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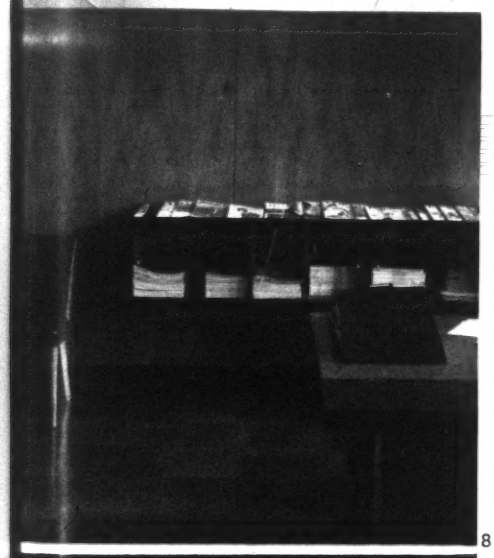

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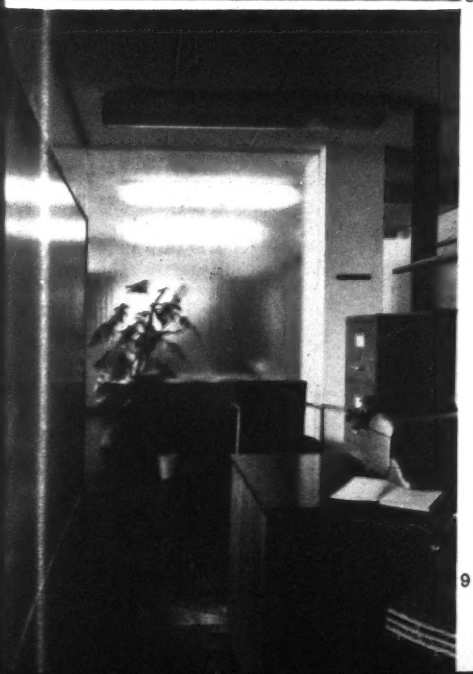
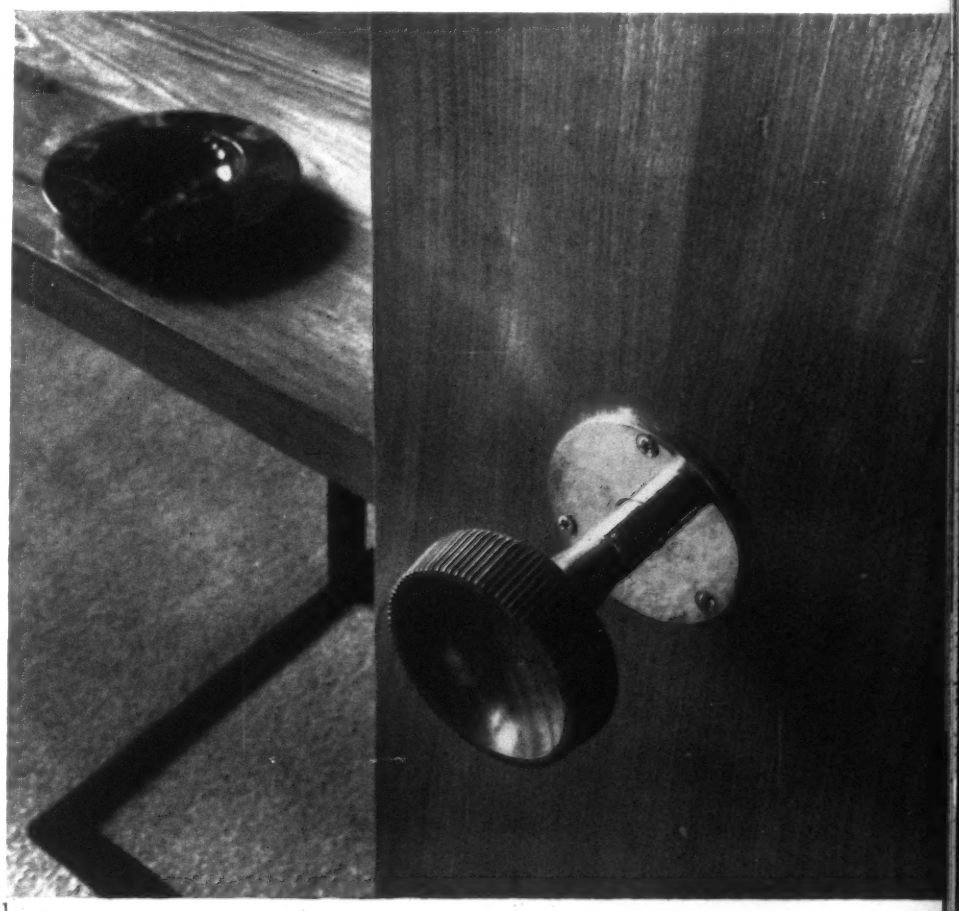


9

Boardroom in Grosvenor Place, London

architects : Basil Spence and Partners



1

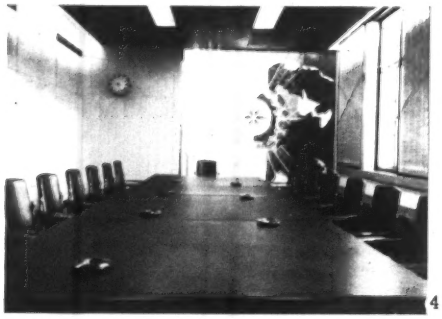
The brief called for a boardroom, in a space with no strong given factors except the module of the fenestration, and a room for a company secretary with well-defined personal and professional needs.

1, a doorknob of turned teak with manganese-bronze door-plate; the door, giving access to the secretary's room, is also of teak. This combination of wood and metal, carefully detailed, runs through the whole scheme.

2

2 and 3, the company secretary's office. The ceiling has been lowered over about two-thirds of its area, but is at full height over the main desk, seen at the far end in 2. The shelf unit on the right is seen in detail in 7. On the other end-wall of the office is a combination unit, 3, housing radio, television, etc., and a glass-fronted cabinet for a valuable collection of china.

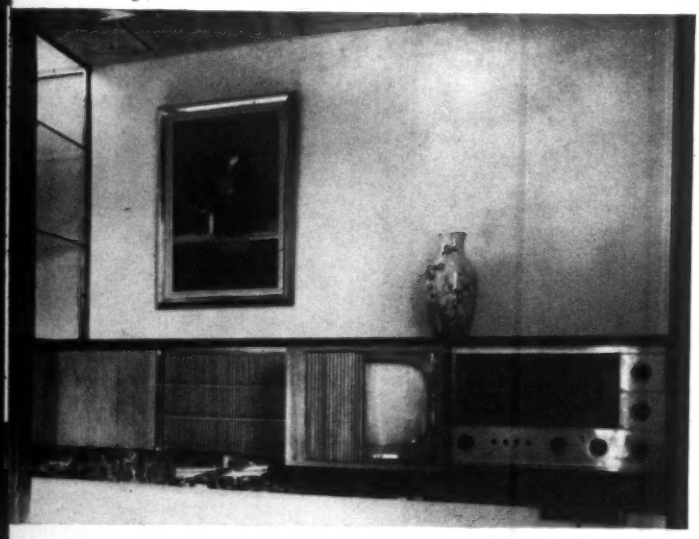
4, a general view of the boardroom, with the mural by Edward Bawden on the end wall. The ceiling is of Indian-red hide, the walls of yellow hide, divided into panels by manganese-bronze strips on the module of the windows.



4

BOARDROOM IN GROSVENOR PLACE

3



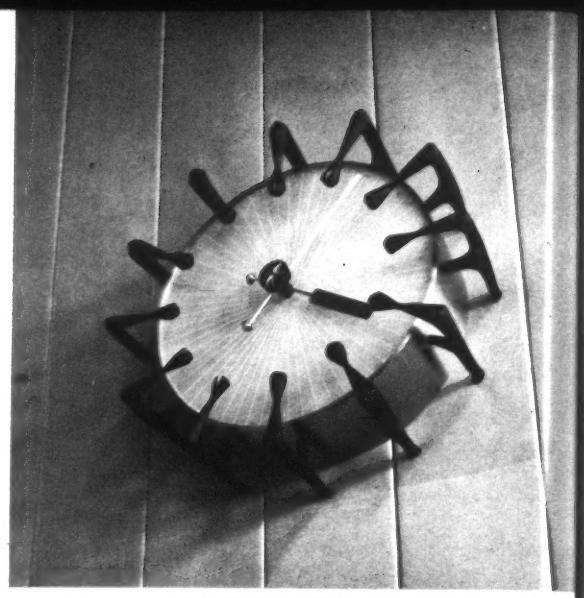
5

5, the boardroom table; the legs are of mild steel, with identical teak bearers top and bottom, and loose top made up in four sections so that it can be adjusted to suit meetings of varying sizes. The top is in black leather with a manganese-bronze edge-strip.

6, purpose-designed clock (boardroom) with brass case and hands, engraved alabaster face, wrought iron hour-marks.

7, adjustable teak bookshelves in the secretary's office.

8, one of the chairs designed by the architects, and used throughout the scheme: teak, with manganese-bronze fittings and black leather upholstery.



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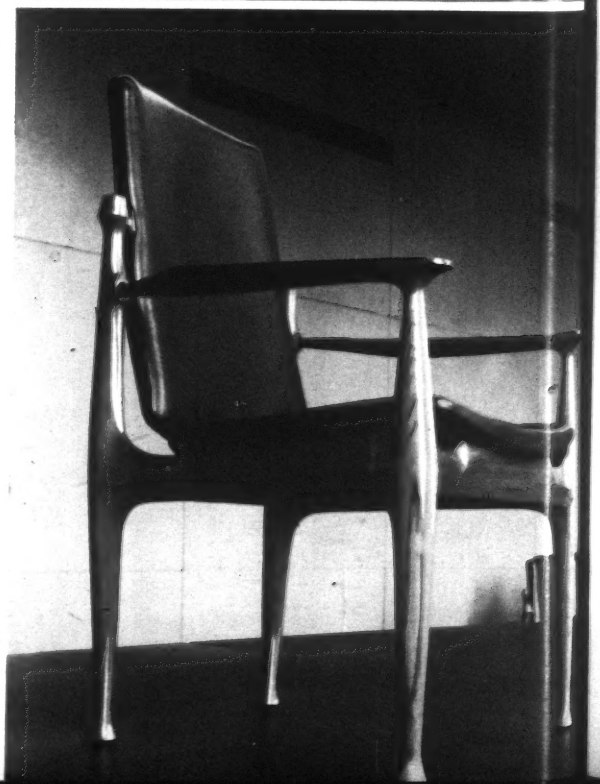

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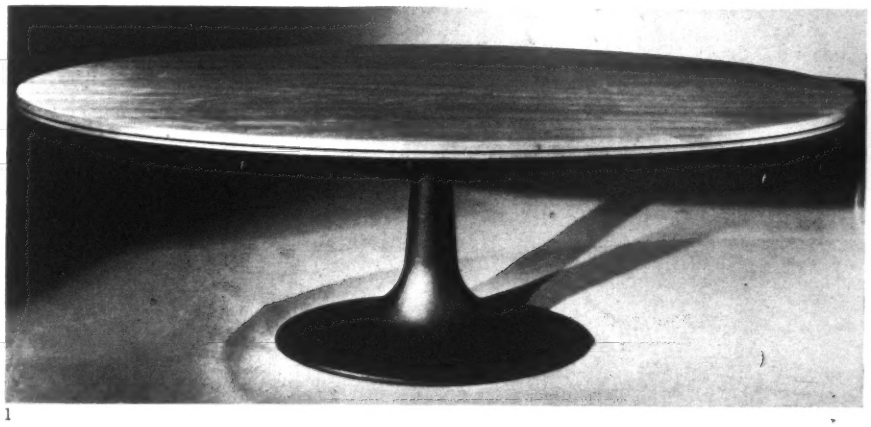

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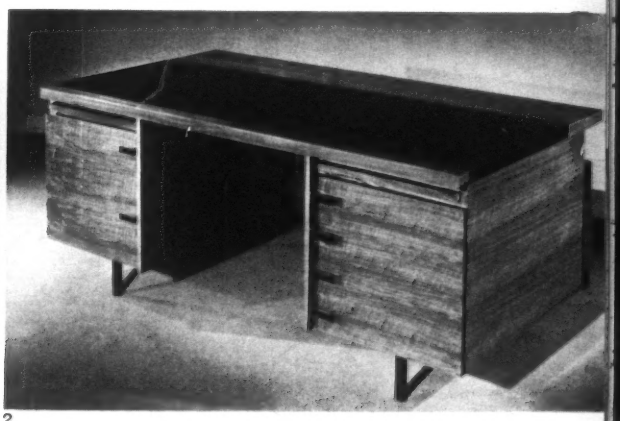


2

Status Furnishing 1

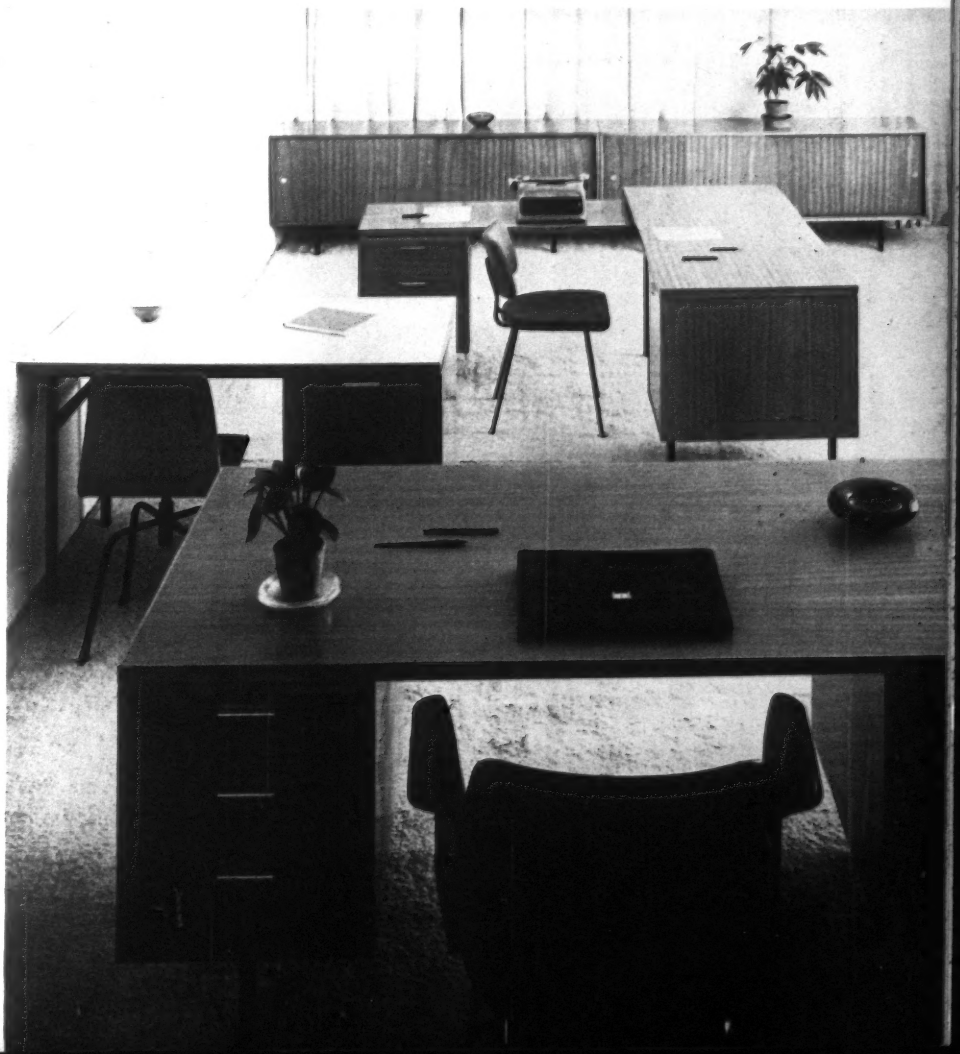
Among the Contract and Purpose-Made furniture now available from Heal's there are two notable pieces in the grand manner for really opulent interiors. **1,** *an eight-foot by four-foot oval table, described as a dining table but usable for more ceremonial purposes, with teak veneered top and matt-black painted cast-iron pedestal; designed by Nigel Walters, it is priced at £95.* **2,** *is an impressive executive desk, which sets walnut against black metal and black leather (the latter for the top and the draw-pulls), designed by Clive Hunt. There are two related cupboard units in the same materials, which help to build up a unified executive suite, and the flat-board across the back of the desk swings up to unite with the top in creating a work-surface and conference-table dimensions. Prices of the units in this HC 600 suite are: desk, £213 10s. 6d. cupboards, £105 10s. 0d. and £53 4s. 6d.*

Status Furnishing 2

Hille of London are producing some new office furniture designed by Robin Day called the Status Group. **3,** *the range consists of pedestals with a choice of interior fittings, desk tops, tables and storage cabinets in various sizes which can be combined to suit an almost infinite variety of needs. The pedestals can be fitted to take filing or pen trays, or can have cupboards, drawers, adjustable shelves or typewriter storage.*

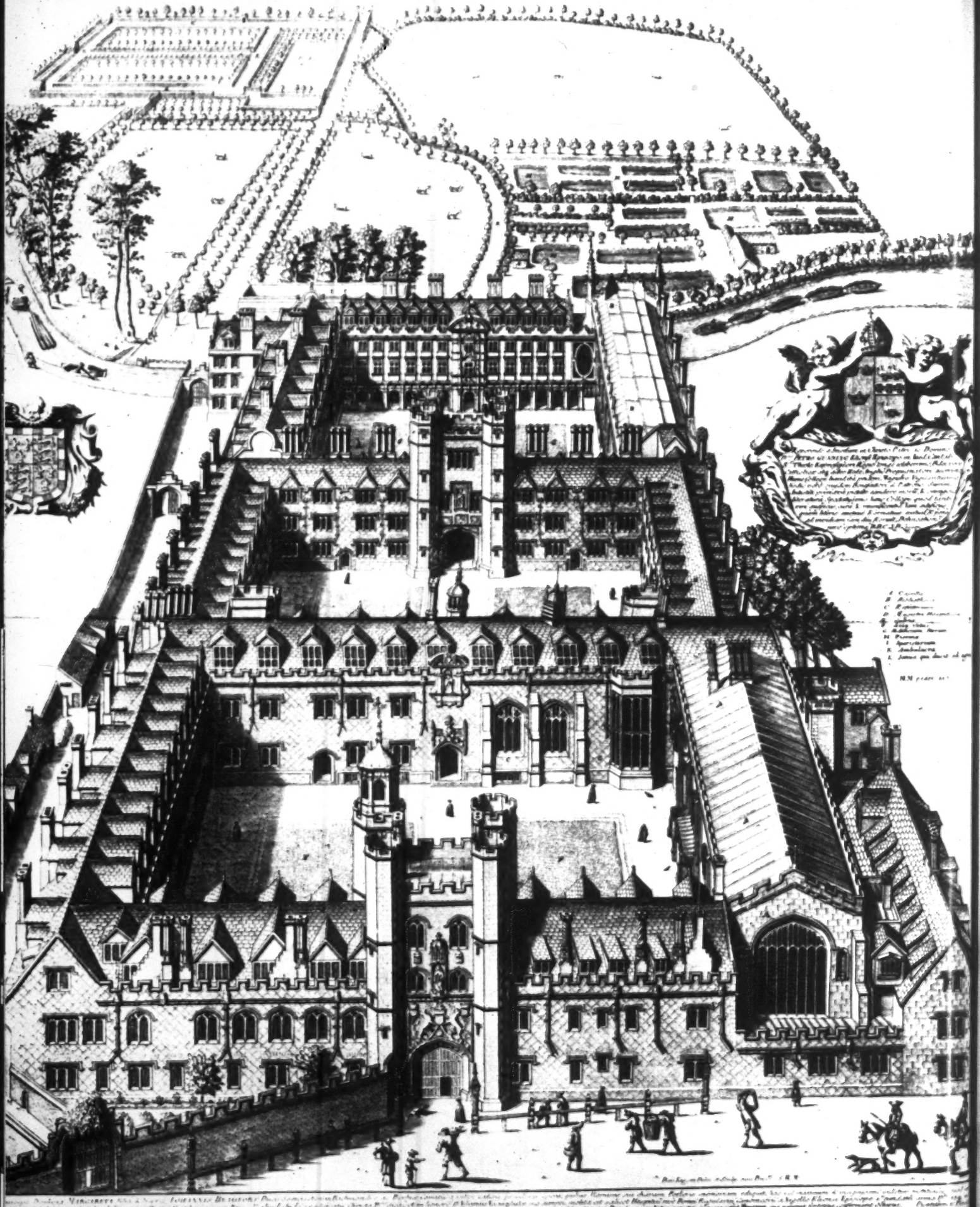
The components are made in Pacific walnut, mahogany, teak or rosewood with wood or plastic tops. The frames are square section and can be black or satin chrome. Front panels are supplied in black or white plastic or veneer to match the desk.

The double pedestal desk in the foreground is 6 ft. by 3 ft. and with one three-drawer unit and one cupboard unit costs approximately £62. The single pedestal desk is £32 16s. 6d. and the L-shaped combination of a 5 ft. 3 in. by 2 ft. 3 in. single pedestal desk and side typing table costs £67 15s.



3

COLLEGIUM SANCTI IOHANNIS EVANGELISTÆ.



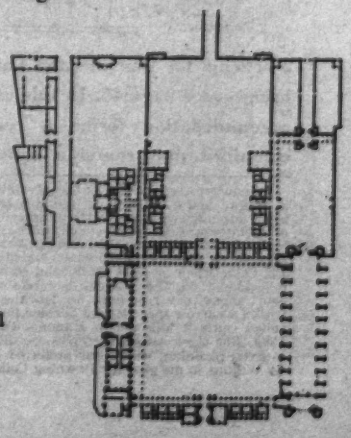
THE COLLEGIATE PLAN

The courtyard plan, exemplified in Loggan's view of St. John's College, Cambridge, opposite, has been the theme of many recent discussions of university architecture. In the article below, the modern potentialities of the same plan are discussed in relation to a number of university projects. The architect for the women's hall of residence at Leicester University is Sir Leslie Martin in association with Trevor Dannatt. All the other work illustrated is by Sir Leslie Martin in association with Colin St. John Wilson. Patrick Hodgkinson was principal assistant on the project for Gonville and Caius College, Cambridge.

These schemes, prepared during the past three years, are linked to each other by a similarity of programme; in addition they are all built up round one central architectural idea—the idea of the court.

This idea is fundamentally one of organization. From the thirteenth century the enclosing wall of buildings round a private space has identified the collegiate community. Rooms round staircases have related individuals to groups. The court has related groups to each other. Courts of varying sizes added to each other have given a recognizable consistency and order to the buildings of the whole community.

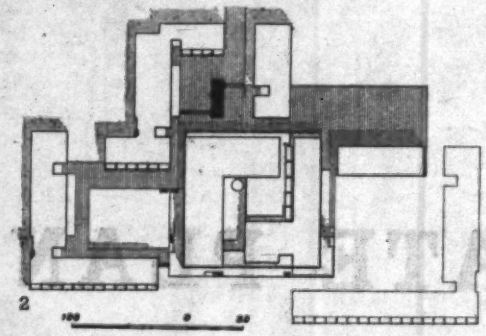
The powerful unifying form of the court is well illustrated in Loggan's view of St. John's College, Cambridge, opposite. In the first court, buildings as dissimilar as the chapel, the hall and the residential accommodation are brought into relationship. In 1602, when the second court was built, and again fifty years later when the third court was added, the architectural style was changed; but the court continues to provide the underlying order. Indeed, the architectural conception of the court is more lasting than superficial changes of style. It forms the basis of the earliest plans for Cambridge colleges—Pembroke, Gonville, Trinity Hall and the first court of Corpus Christi, built in 1350. And in spite of Wren's dislike of the closed court and the increasing interest of Renaissance designers in balance and symmetry, the court is still the basis of Hawksmore's plan, 1, for the completion of King's College.



1

The main principles inherent in the court plan* are still valid for university residential buildings. Building round an individual court can be a complete thing in itself, but lends itself to ordered extension as a community develops. The sizes of individual courts can vary considerably and are readily adaptable to differing space requirements and site conditions.

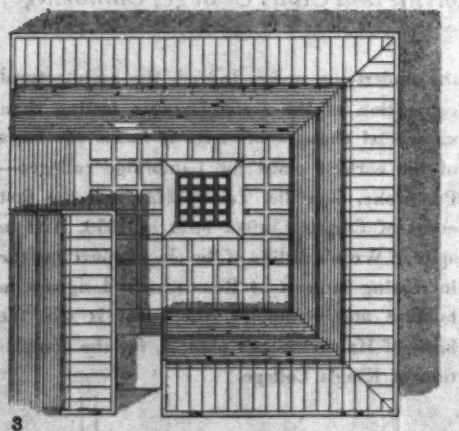
2 shows a scheme for a women's hall of



2

residence now being built at Knighton for the University of Leicester. Two related courts (100 ft. by 80 ft. and 70 ft. by 70 ft.) are associated with a central block of buildings which contains common rooms, dining hall and recreational facilities. A third court, again of different size, forms a possible future extension. Courts in this case are built up round a central nucleus: three sides of each group form a peripheral wall of residential accommodation; the fourth side gives access to the central social block.

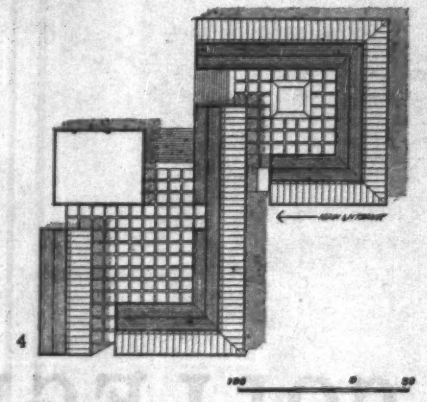
The additive principle by which the court can be readily extended is again shown in 3 and 4,



3

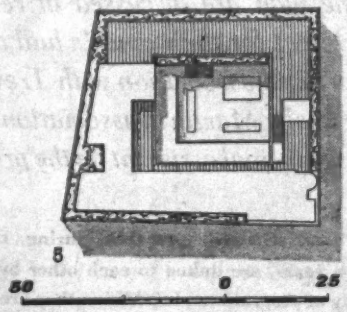
a scheme for Gonville and Caius College, Cambridge—see page 46. In this case the residential accommodation forms a complete and self-contained unit round a square court. Future building can be linked to this initial form to provide an extension of the court idea.

The principle adopted is that the residential accommodation itself forms the enclosure of the



4

court—the rooms used by the community (the hall, common rooms, etc.) are self-contained and independent buildings within the enclosing wall of student rooms. The sizes of courts are related to the groupings of the community itself. They lend themselves to considerable variation and are as suitable to the tight, compact planning of an urban site as they are to the subdivision of a large community into manageable social units. 5, for example, shows a project, now

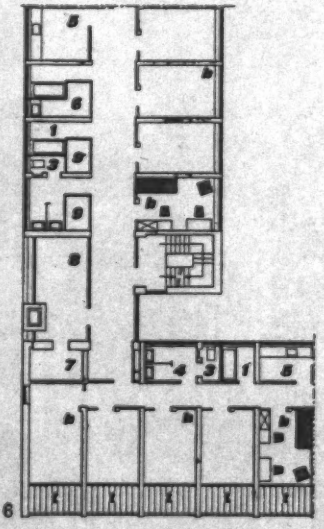


5

abandoned, for residential accommodation for King's College, Cambridge, on a central site.

The residential accommodation which forms the court is itself susceptible to variety in its form. In the examples which follow, this variety is largely the result of two considerations: first, the aspect of the rooms themselves; and secondly, the grouping of rooms around points of access. These two considerations are to some extent interdependent.

In the scheme at Knighton, Leicester (already shown in 2 and illustrated in more detail in 6-9 on the right), buildings running north and south have rooms facing east and west and a central corridor access. Buildings running east and west have south-facing rooms only: there are no north-facing residential rooms. Such an arrangement depends on corridor access, 6. Staircases at the angles and at the ends of blocks limit corridor lengths. Room sizes in this case are



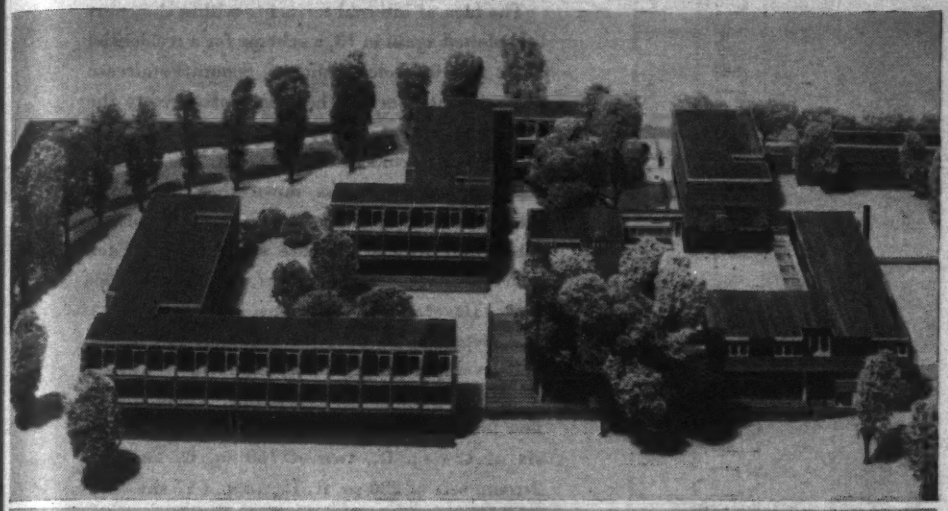
6

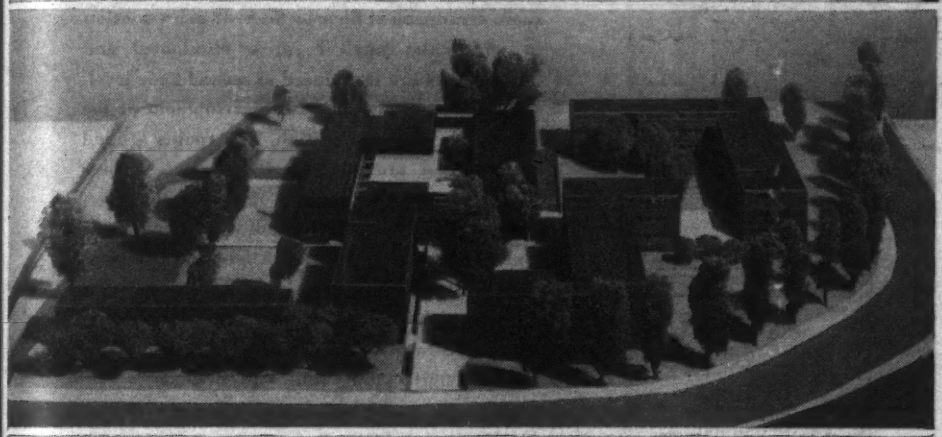
key
b, bedsitting room. t, terrace. l, bathroom. 3, w.c. 4, cloakroom. 5, kitchen. 7, ironing room. 8, laundry. 9, store.

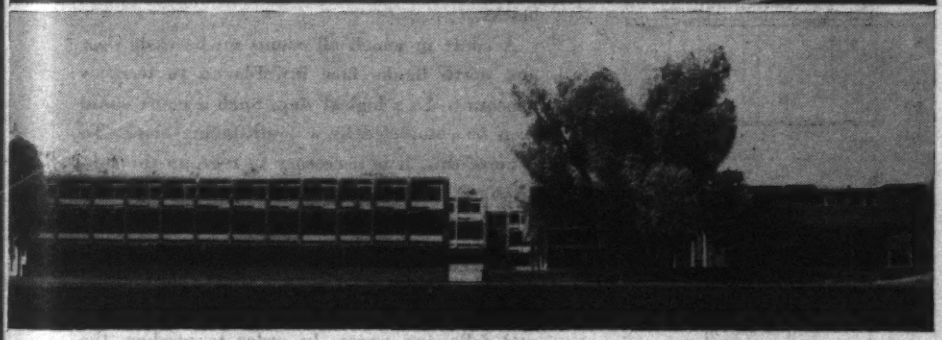
On facing page: 7, 8 *and* 9, *three views of the model of the women's hall of residence now under construction at Knighton, for the University of Leicester (architect, Leslie Martin in association with Trevor Dannatt).*

11 *and* 12, *model of a scheme, now abandoned, for King's College, Cambridge, with residential accommodation over ground-floor shops (architect, Leslie Martin in association with Colin St. John Wilson).*

* An interesting account of the 'Evolution of the College Court' in Oxford and Cambridge is provided by Mr. G. P. Gutterridge in an unpublished thesis in the Library of the Cambridge School of Architecture. The open-ended court already existed, he writes, in Jesus College, where the buildings had a monastic rather than a collegiate foundation. The open-ended court was also urged by Dr. Caius when he built the second court at Gonville and Caius College in 1565. The Statutes decreed that the fourth side of this court should never be built up 'lest the air from being confined within a narrow space should become foul.' The idea of the open-ended court is followed in Hammond's plan for Emmanuel in 1592. But these earlier examples are different from the interest in axial planning, which was preferred by Wren and later used by Wilkins in his plan for Downing College.



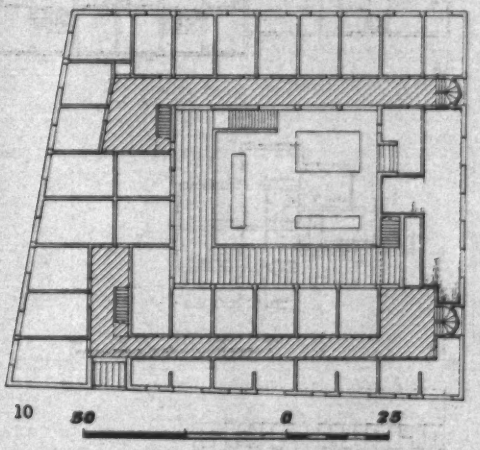




fairly constant and meet the University Grants Committee limit of 120 sq. ft. All the south-facing rooms have balconies.

This consideration of aspect has an interesting effect on the appearance of the court itself. Within a single court no two sides are identical. South-facing walls have their characteristic balconies; north-facing walls are comparatively windowless, 7 and 8. Long views through two courts pick up the repetition of wall treatment and convey the unity of the scheme, 9.

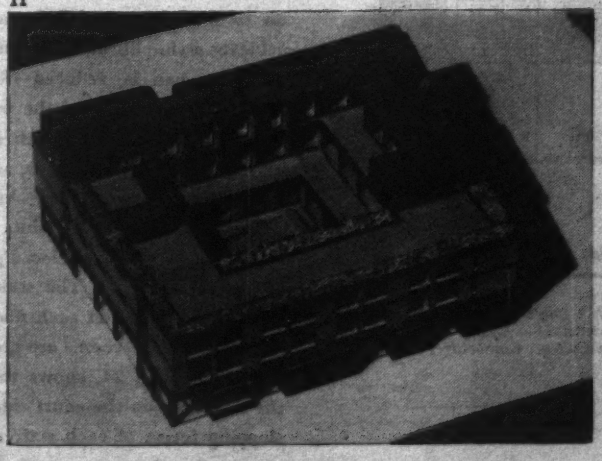
The effect of considerations of orientation is again shown in 10, a more detailed plan of the scheme for King's College, Cambridge, already shown in 5. Here a centre court within a tightly planned block is provided with terraces in front of its south and west-facing rooms. The stepped forms of these terraces introduce the possibility of variety in size and shape of the rooms at each floor level (see the model of the same



10

scheme, 11). Rooms are double banked at either side of a central corridor, but the corridor itself widens out at certain points and has windows overlooking a central court. Each level of the stepped terracing is linked externally by stairways placed so that, together with the terraces, they form a spiral ascent within the court itself. The terraces also serve as galleries for an open-air theatre within the court, 12.

11



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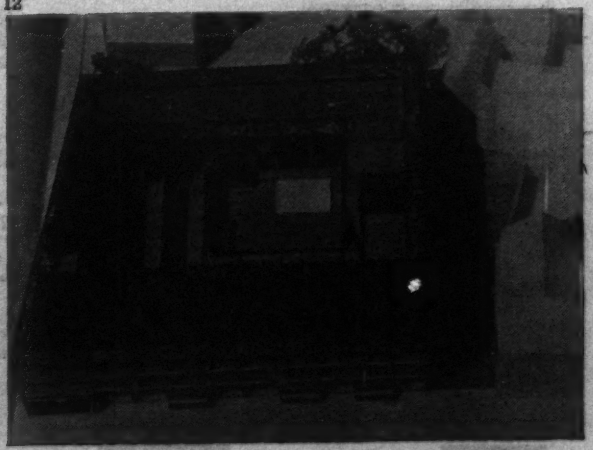

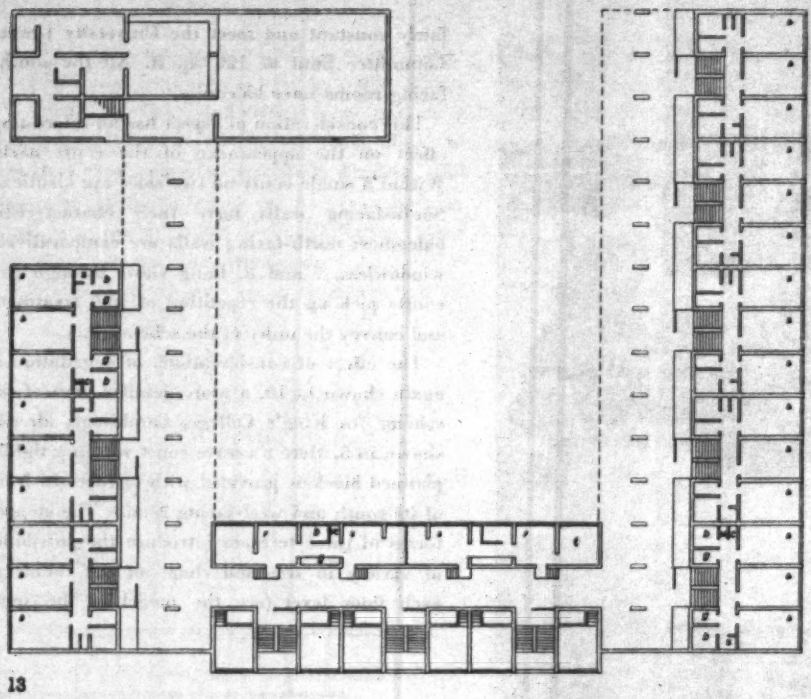

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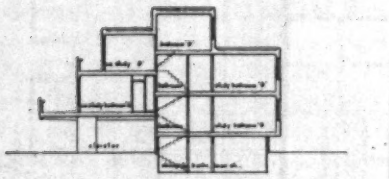

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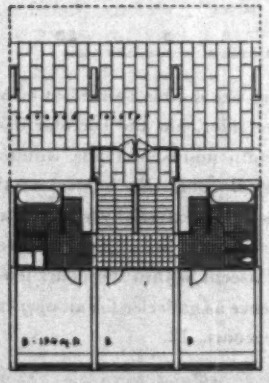
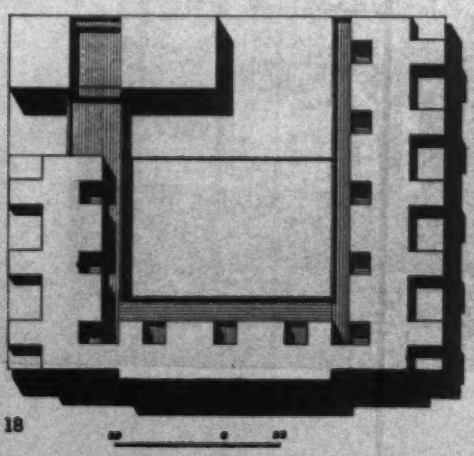


PLAN OF GROUND FLOOR

15



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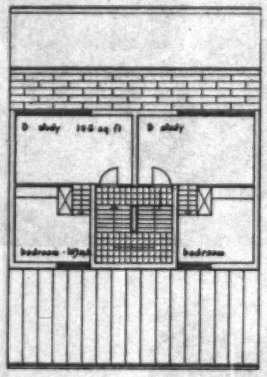
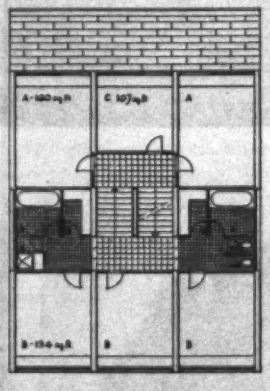


PLAN OF SECOND FLOOR

16



PLAN OF FIRST FLOOR

17

On this page: first scheme for a residential block for Gonville and Caius College, Cambridge.

The idea of internal terracing within the court is exploited again in 13, a scheme for a residential block for 100 undergraduates. Separate staircase access is introduced. The main entrances to the various staircases are approached from a covered cloister which runs round the court. The separate staircase access breaks down the community into local groups. Each group of rooms form a 3-bay unit with a staircase at its centre. Each staircase serves eleven rooms and their service rooms (lavatories, bath rooms, gyp rooms, etc.). The stepped section of the building, 14, and its half-level planning allows considerable variety in the shape and size of rooms. There are in fact four main types of room: one of 107 sq. ft., six of 134 sq. ft., two of 160 sq. ft. and two 2-room sets of 220 sq. ft. 15, 16 and 17 show the room arrangement floor by floor. 18 is a variation in which the small room is eliminated and 2-storey sets are introduced at second floor level.

This type of planning is a development of the Cambridge college tradition. The rooms around the staircase are given variety in size. Rooms facing on to the court itself open on to terraces. The planning lends itself readily to simple cross wall construction. But this form of layout is open to several criticisms: one is the number of staircases; another is the orientation of the rooms themselves, which works well enough for blocks running north and south, but involves north-facing rooms or a change of plan in the east-west blocks.

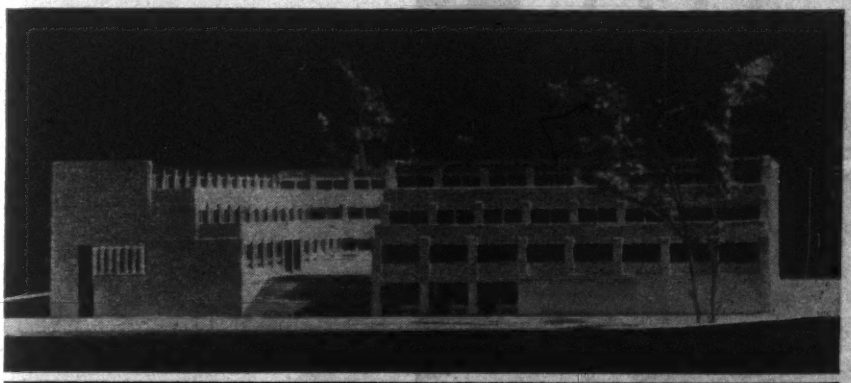
A court in which all rooms on its east, west and north flanks face inwards on to terraces appears to be a logical step. Such a court could then be completed by a south-facing block. To achieve this, it is necessary to regroup the sub-divisions of the community around the access points, which has been done in the last project illustrated: the final scheme for the new residential building for Gonville and Caius College, Cambridge, shown in 19 and 20 on the facing and following pages. In order to produce the greatest number of rooms facing on to the court itself, it is necessary to remove staircases on to external peripheral walls. This at once achieves a simplification: the number of separate staircases can be reduced from eleven in the earlier plan to five, and the number of separate flights from 50 to 23. Each single stair serves a greater number of rooms, with the possibility of greater variety in their shape.

The main staircase points in this plan are approached from an enclosed peripheral corridor at ground level, 21. The staircases serve short lengths of landing at each floor, 22 and 23, and around these the rooms are grouped. The section of the building, 24, shows the stepped form of the terracing on the court side and the outward stepping forms of each staircase flight.

The grouping of rooms now produces the following variations of size:—

41 rooms of 173 sq. ft.
21 „ „ 228 „ „
10 „ „ 226 „ „
6 „ „ 240 „ „
6 „ „ 300 „ „

and 6 large sets of 680 sq. ft., which can be sub-



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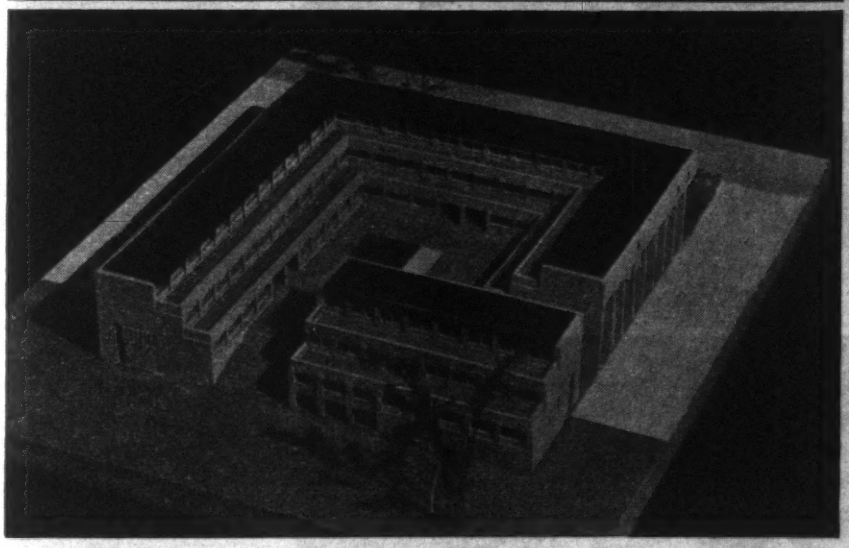

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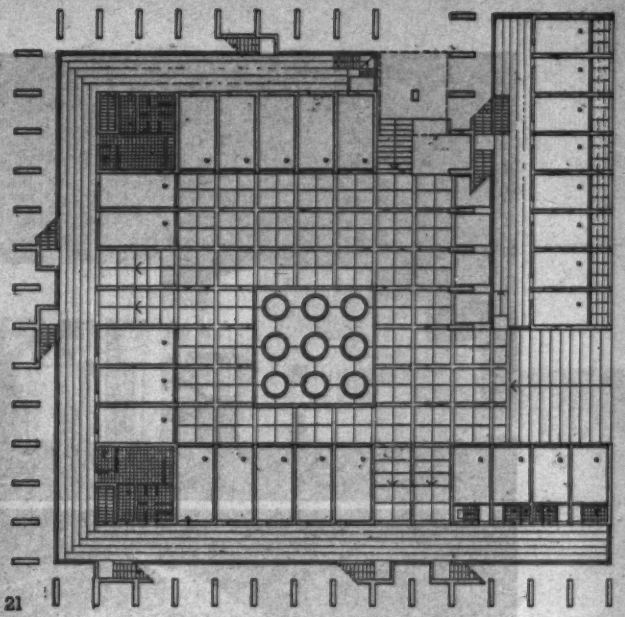

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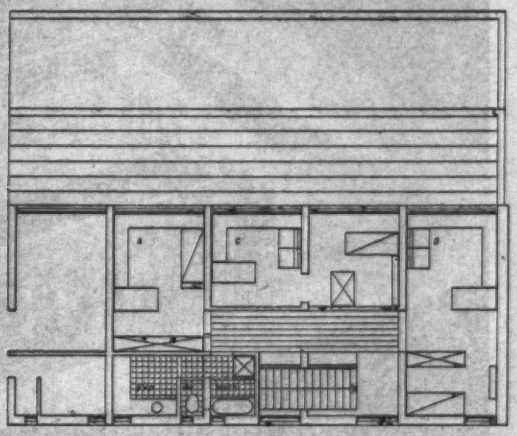

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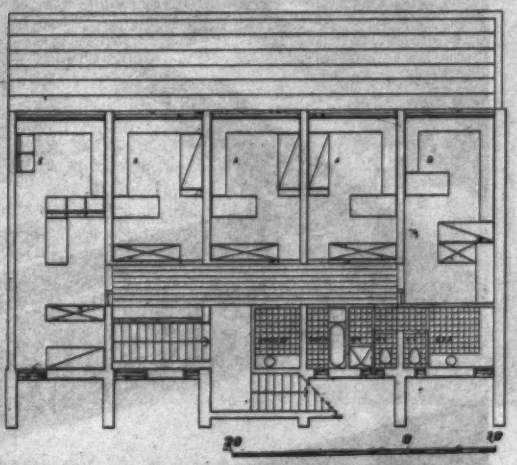
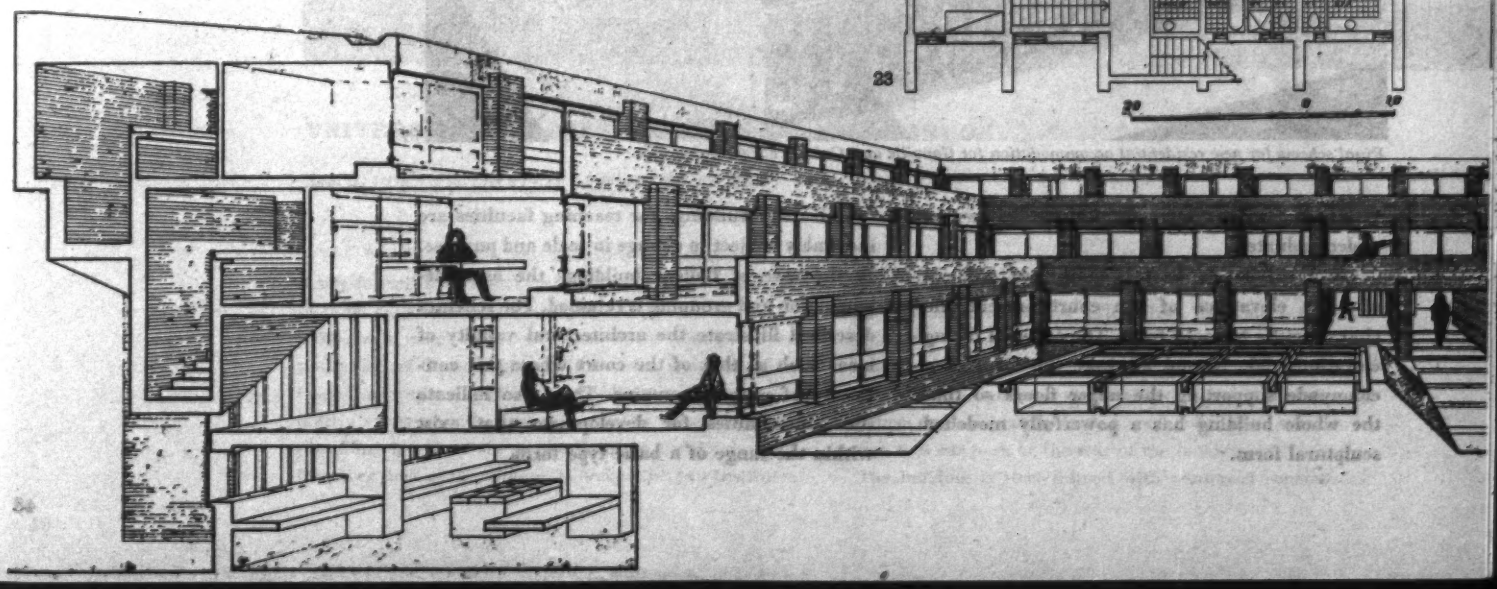


23

On this page: final scheme for new residential accommodation for Gonville and Caius College, Cambridge (architect, Leslie Martin in association with Colin St. John Wilson).



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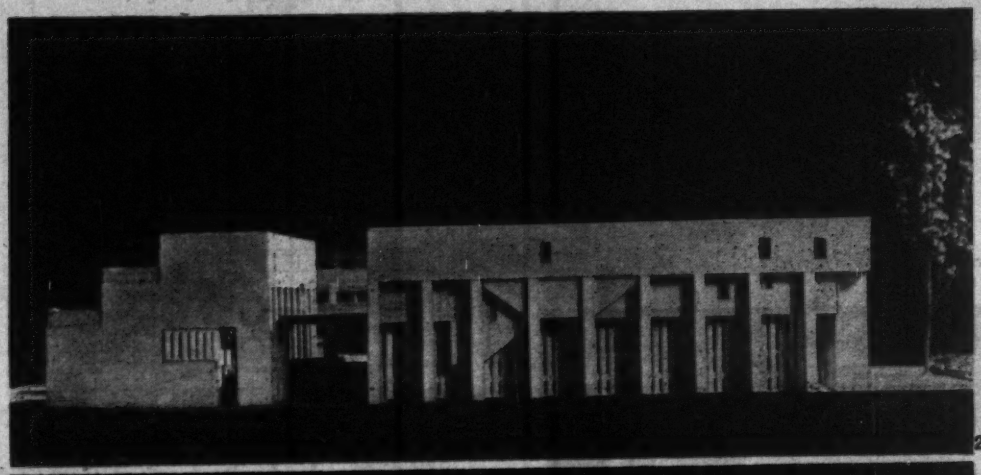

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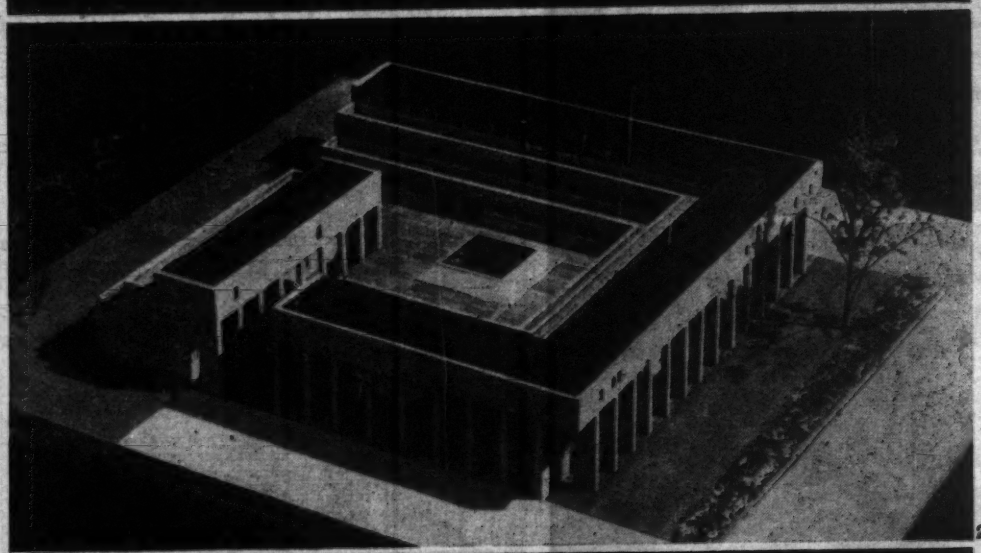

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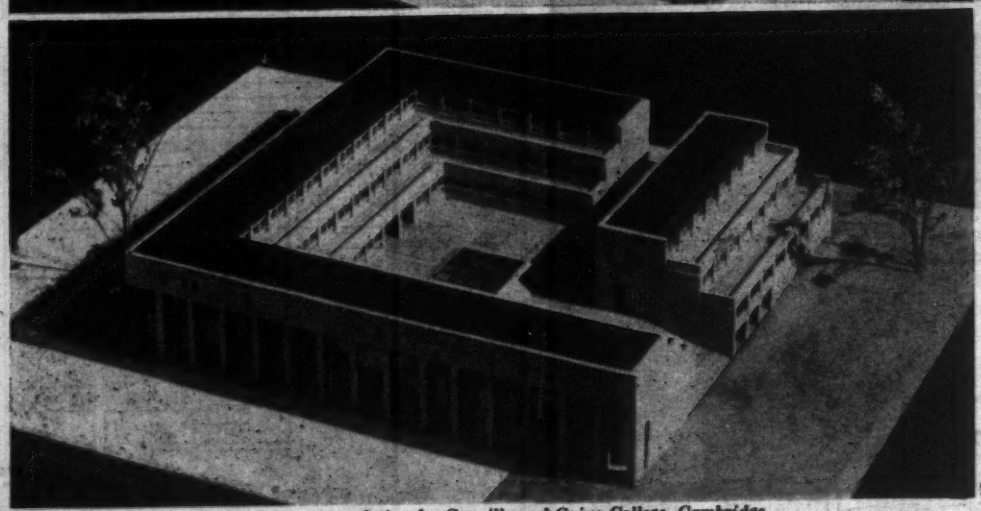


27

Final scheme for new residential accommodation for Gonville and Caius College, Cambridge

divided in various ways for use by Fellows or undergraduates.

Cross wall construction is again used. Externally the elevations of the court present the characteristic terraced form. The outward facing elevations, 25, 26 and 27, take the form of a colonnade supporting the upper floors so that the whole building has a powerfully modelled sculptural form.

University buildings for teaching faculties are inevitably subject to change in scale and purpose. In the case of College buildings the basic organization and grouping is retained. The schemes described illustrate the architectural validity of ideas such as that of the court where this continuity of purpose remains. They also indicate the opportunities for development that exist within the range of a basic type form.

1, *the Gordon Square front, with examination halls in the Taviton wing on the right.*

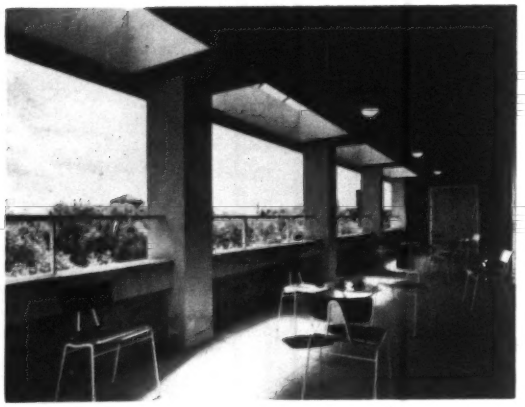
UNIVERSITY BUILDING, GORDON SQUARE, LONDON

ARCHITECTS: BOOTH, LEDEBOER AND PINCKHEARD

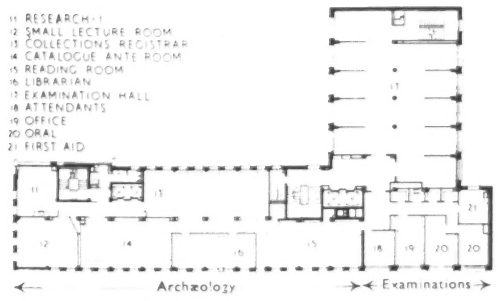
The building houses the Institute of Archæology, a newly-formed Institute of Classical Studies and a number of large halls for University Examinations.

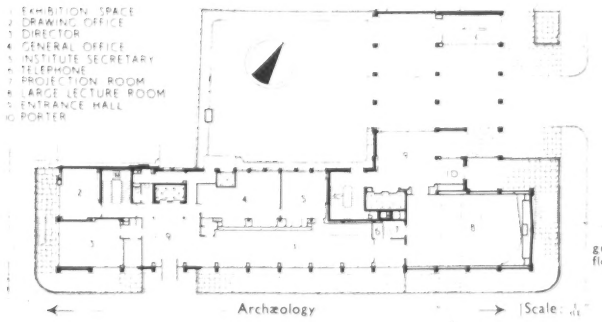
The main wing occupies the whole of the frontage on the north side of Gordon Square. It is seven storeys high, a height determined (before the publication of Sir Leslie Martin's long-term development plan) as being the likely prevailing height of the proposed future development on the other sides of the Square. It houses the two Institutes and some of the examination hall accommodation, the remainder being in the return wing of four floors above an open ground floor storey. This gives the wing a total height of five storeys and maintains the existing height of the Taviton Street terraces. The space under the wing gives cover to waiting examinees, who gather in large numbers on examination days. A road under gives vehicle access to a car park at the rear of the building.

The building is steel framed with reinforced concrete



2, terrace outside the common room of the Institute of Classical Studies on the sixth floor.





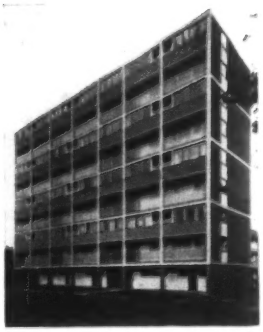
University Building, Gordon Square, London

floors. It is faced with brownish-yellow Stamfordstone bricks. Cornice, string courses and column facings are Portland stone. The panels between columns at ground and sixth floor levels are faced with green Westmorland slate.

The total floor space is approximately 70,000 sq. ft. of which one third is devoted to examination halls.

HOUSING AT CROYDON

ARCHITECTS: RICHES AND BLYTHIN



3, the nine-storey block from the north-east, showing the access balconies.

This development in South London stands on a bombed site of just over an acre, formerly occupied by four semi-detached Victorian houses and a dance hall, provides a total of 44 flats and maisonettes. The nine-storey block, with bed-sitting room flats on the ground floor, and maisonettes above, has a reinforced concrete frame and hollow-tile reinforced concrete floors. The three-storey block contains one-bedroom flats and is constructed with load-bearing party walls and tiled roof. The traditionally constructed single-storey block contains flats for old people. Space heating and hot water is provided by an open fire with back boiler in the lower blocks and by closed stoves in the tall block, and there is a laundry fitted with a washing machine, hydroextractor and drying cabinets.

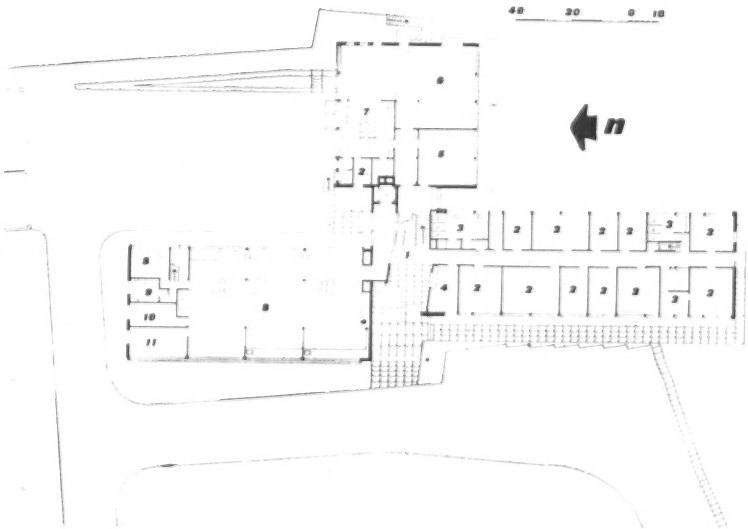
4, the two main blocks from Elmwood Road, with the single storey bedsitting room block just on the right.

5, the main entrance, with the library above and the laboratory wing beyond. The wrought iron sculpture, designed in the architects' office, is based on a section through a coke oven.

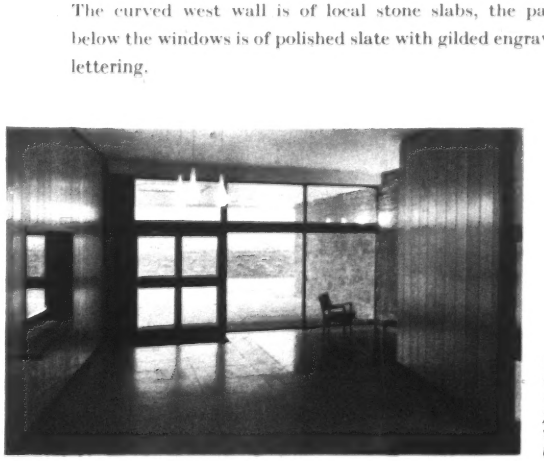
LABORATORIES AT CHESTERFIELD

ARCHITECTS: WESTWOOD, SONS AND PARTNERS

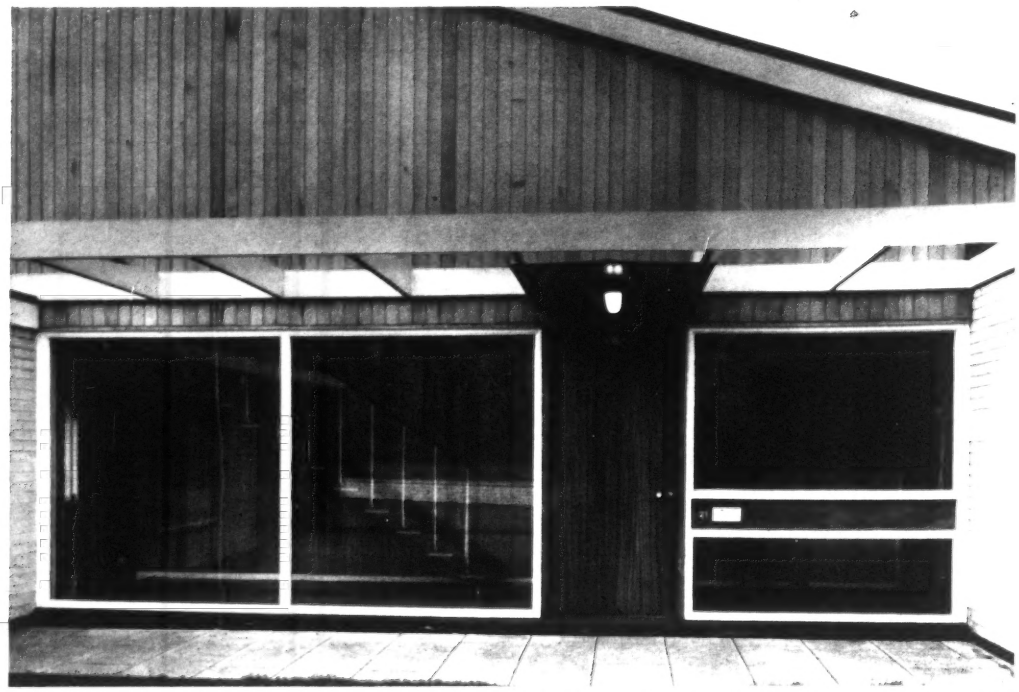
The British Coke Research Association's new buildings in Wingerworth, near Chesterfield, house laboratories, offices and canteen, forming the wings of a T-shaped building, with the library and main staircase at the centre. The structure is of reinforced concrete throughout. The laboratory block has mild steel curtain walling with slate blue glass panels below the windows, and an end wall of reconstructed stone. In the office wing the panels are of exposed aggregate, and the end wall is brick faced. The library is cantilevered over the main entrance, with a single concrete column which was shuttered in foam rubber. The curved west wall is of local stone slabs, the panel below the windows is of polished slate with gilded engraved lettering.



key
1. entrance hall
2. office
3. cloakroom
4. reception
5. dining room
6. canteen
7. kitchen
8. laboratory
9. dark room
10. balance room
11. light engines



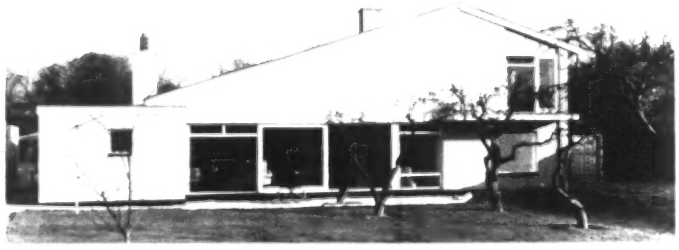
6, the entrance hall has walls of pine boarding and a floor of polished stone, with a panel of hardwood in the waiting area to the right of the door.



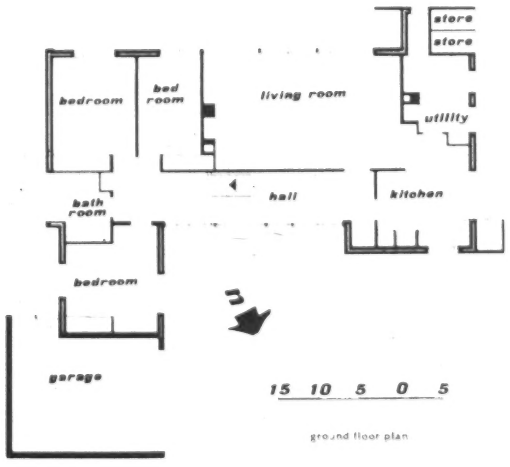
7, double glazed windows light the hall and staircase. The front door and letterbox panel are of mahogany.

HOUSE AT HAM COMMON

ARCHITECT: LESLIE GOODAY



8, the house from the south.



ground floor plan

One of a group built by the same architect on the south-west side of Ham Common, near Richmond, this house was designed mainly on one level, with the owner's bedroom and bathroom on the first floor. The hall and living room in the centre of the house link the kitchen and utility rooms on the west with the three bedrooms and bathroom. The external walls are of buff brickwork, with vertical cedar boarding over the living room and lounge windows. The roof is of lightweight timber trusses with 1 in. insulation board panels covered with copper. Windows have galvanized steel opening lights in timber sub-frames; the large sliding window in the living room and the fixed windows are timber framed. Internal doors are mahogany veneered; floors in the hall and living room are of cork tiles, in the kitchen, bathroom and downstairs bedrooms they are of thermoplastic tiles. Heating is by coils embedded in the ground floor, with individual controls in each room.

9, the open staircase has polished mahogany strings, treads and handrail with bleached ash inserts, and painted steel balusters.

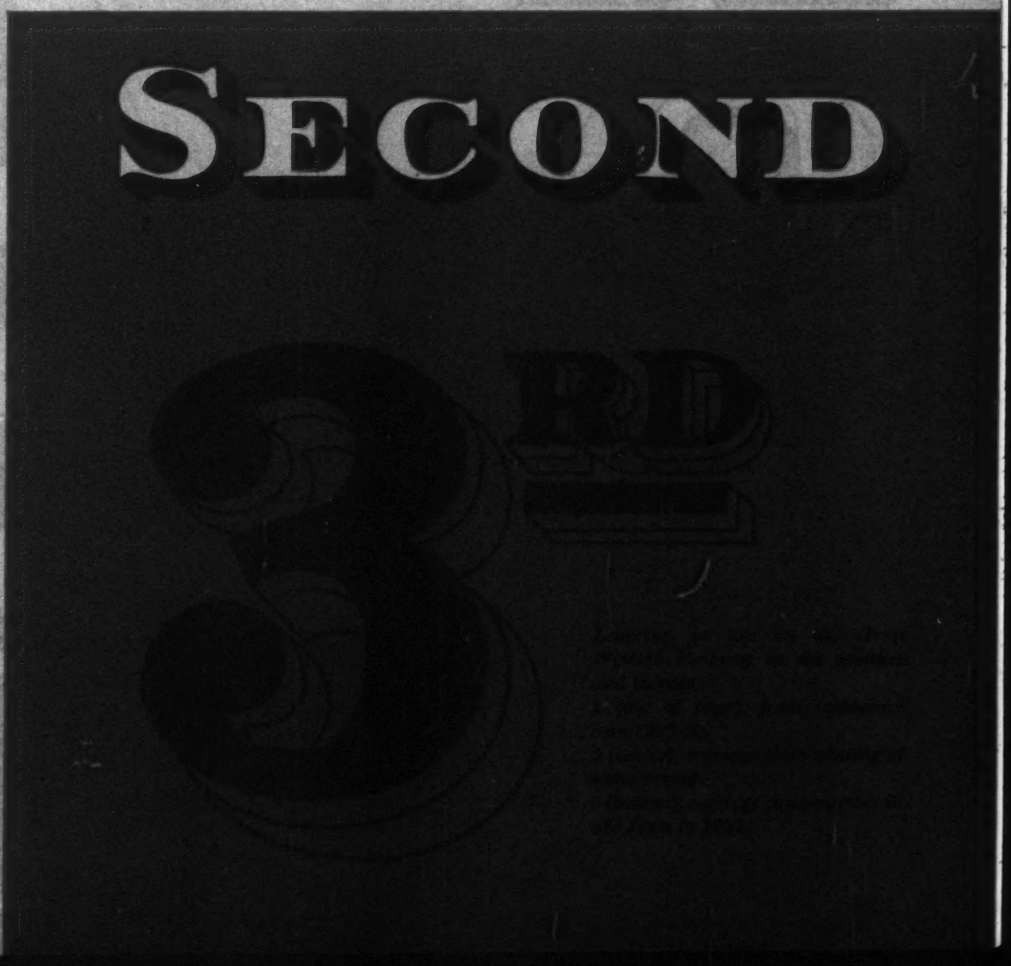
RAILWAY LETTERING

Hugh Wykeham

The disquiet that has been expressed over recent developments in the design and use of lettering, crests, and so forth on the railways of Great Britain is visibly justifiable. But it should be remembered that these disquieting developments are—to a large extent—manifestations of a trend that was praiseworthy in its origins. Twenty or more years ago, London Transport were being praised for adopting, against the run of tradition, Johnston's purpose-designed 'Underground Sanserif.' Other railway organizations began to follow suit, using Gill Sans off-the-peg. However, the adoption of a ready made type-face, Gill or otherwise, is a different matter to commissioning a special one, and destroyed an old tradition without putting a live one in its place. And however outmoded it might look, the illustrations on the following pages, collected by Peter Strevens from Western Region, the old GWR, suggest that even at the time that the tradition was being broken it could still produce first-class work, in accord with the spirit of the railways.

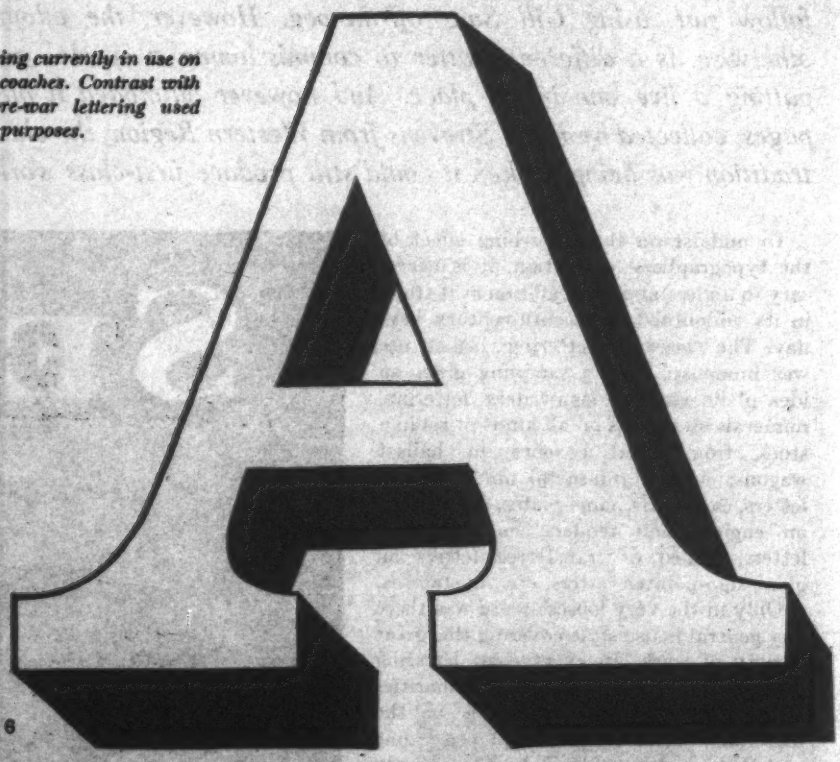
To understand the disturbing effect of the typographers' revolution, it is necessary to understand the tradition as it stood in its undoubted nineteenth-century heyday. The variety of lettering then in use was immense; even a sampling gives an idea of its variety—signwriters' lettering, numerals and crests on all kinds of rolling-stock from royal coaches to ballast wagons; cut-out gun-metal numerals and letters, cast brass name-plates, crests, etc., on engines and tenders; cut-out wood letters, etched or transferred letters on glass, sign-painted letters, etc., in stations.

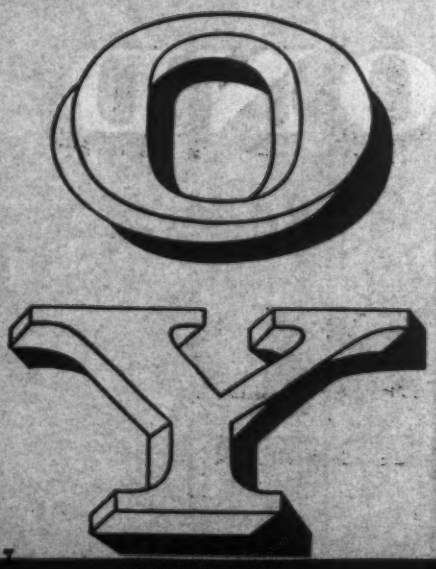
Only in the very loosest sense was there any general house-style covering this great variety of work. In every case, lettering exhibited at least minor peculiarities associated with craft traditions or the materials and techniques employed. Some alphabets appear to have been used only for a single purpose, such as engine name-plates, and appear to derive from something even more localized and specialized than the traditions of a craft; in this case the traditions of a particular workshop. The growth of such shop traditions was inevitable (*a*) when there were no typographical authorities outside the trade to consult, and (*b*) when sign-painters, draughtsmen and other technicians responsible for

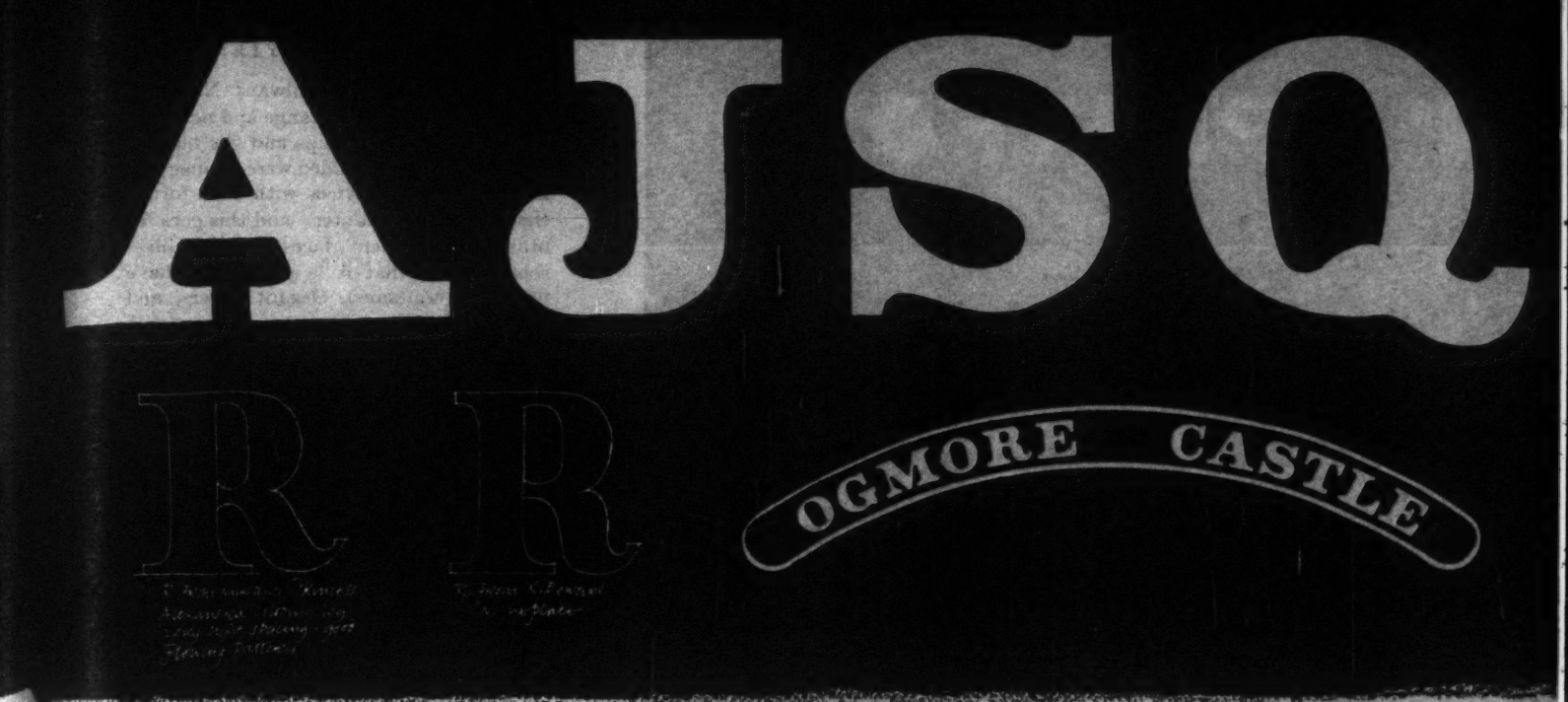


4 (*above*), *gun-metal engine numbers from a drawing dated* 1919.

5 (*left*), *lettering currently in use on Royal Mail coaches. Contrast with* 6 (*right*), *pre-war lettering used for the same purposes.*





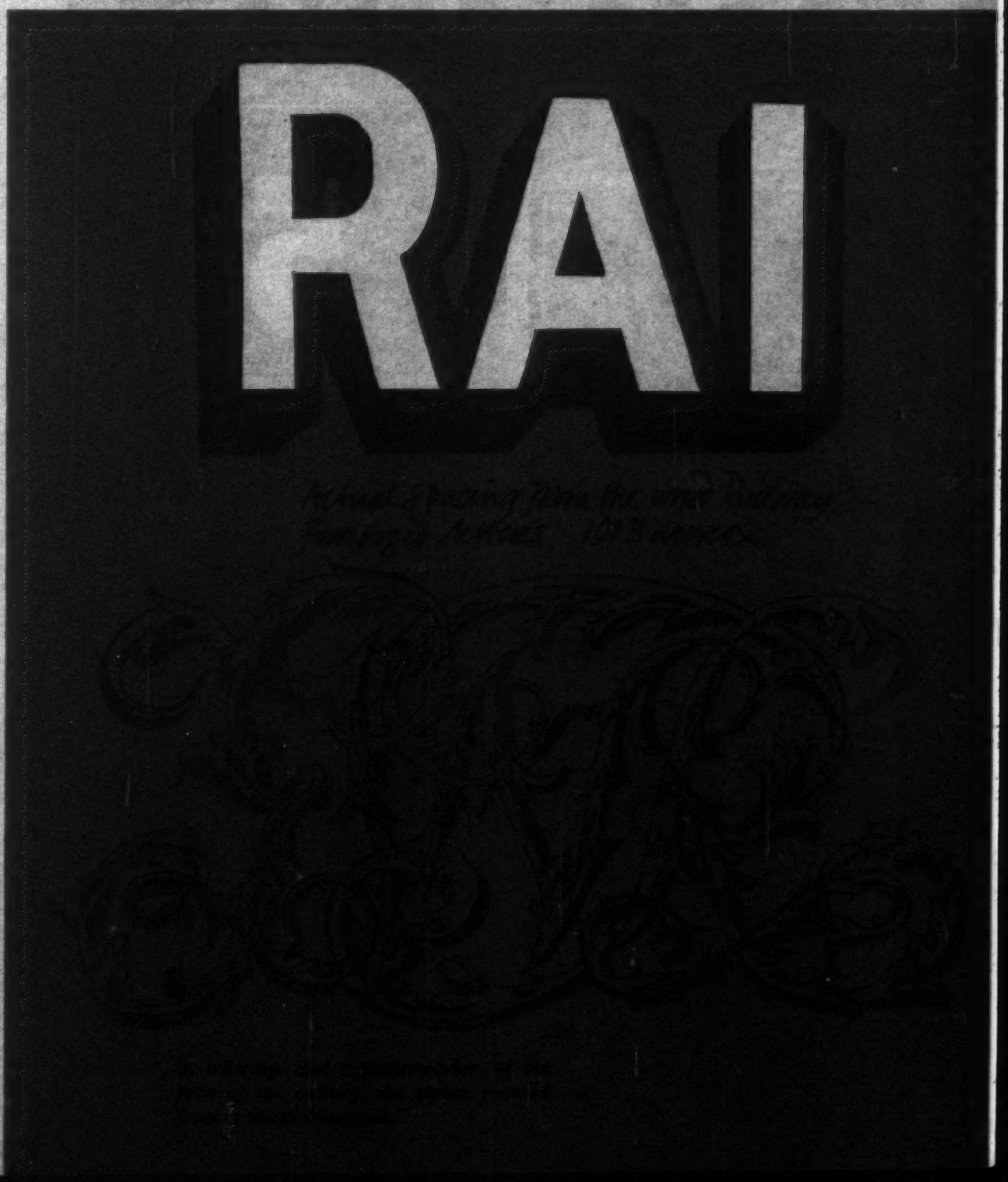


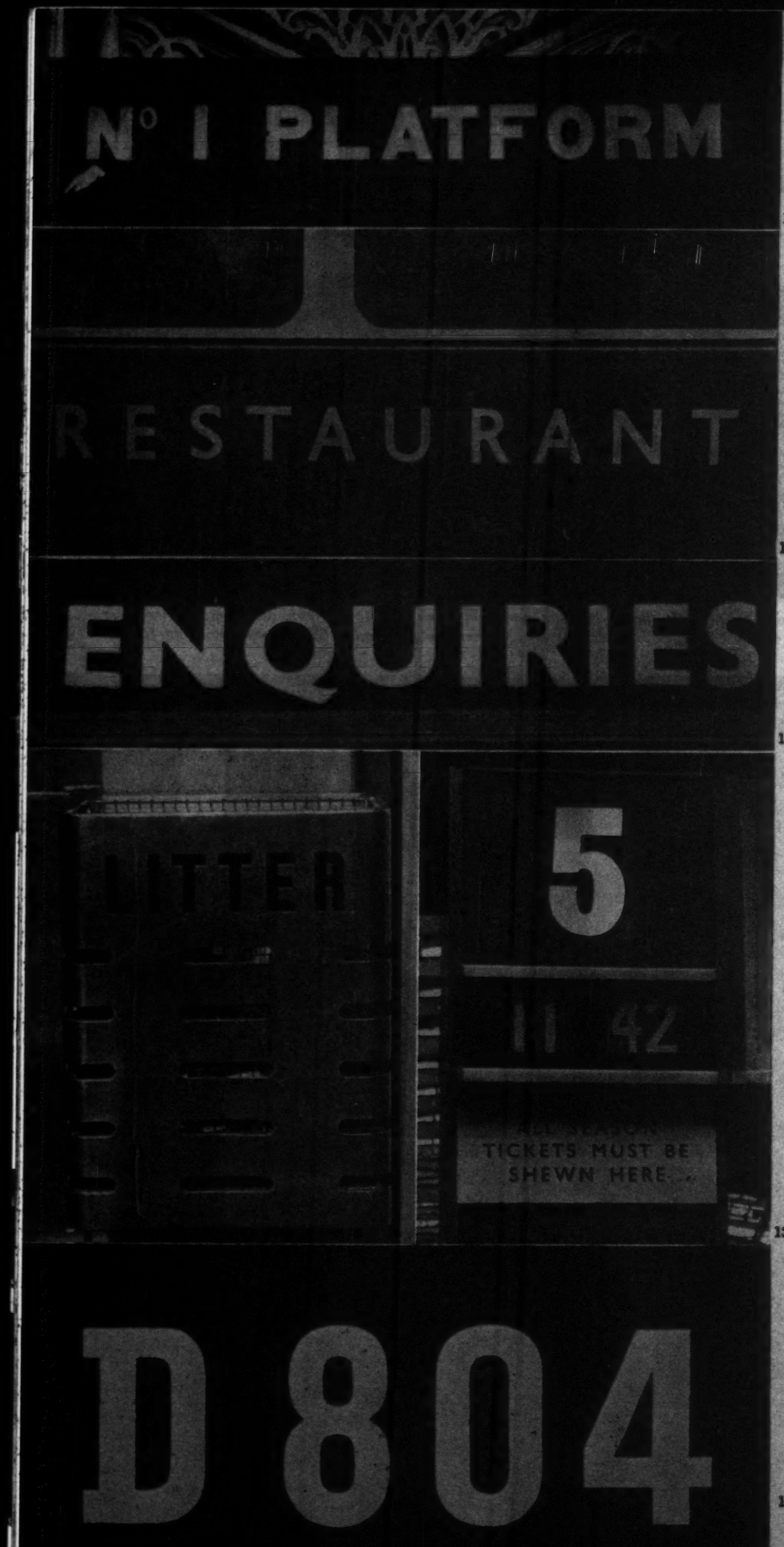
8 (above), engine-nameplate letters from a works drawing of 1937. In this field there had been some detail improvements—compare the later (far left) R with the earlier (King Edward) version. The use of these letters in curved plates is now, however, being replaced by Gill Sans in rectangular frames.

design received their entire training as apprentices inside the industry, looking to their masters and previous work done in the shop both for their patterns and their standards of execution and taste (this may well be an oversimplification, but it gives the general picture of conditions in which the tradition of railway lettering were formed).

Styles that grew up in these circumstances might change progressively over the years, and usually did. For almost three-quarters of a century, the functions, equipment and users of the railways hardly changed any faster, and over that period traditional methods in lettering (and other branches of design, too) were still adequate, as some surviving examples from the early 1930's show. Nevertheless, new ideas were astir, and were brought to a head by Frank Pick, trying to create a new 'brand image' for London Transport, which was offering concepts of transportation that were new in every sense of the word (see *Underground*, by P. Morton Shand, AR, November, 1929). But the commissioning of a new typeface for London Transport and its imposition as a house-style was not the end of the old tradition. The real break with tradition came when the Southern Railway began to 'go modern' adopting Gill Sans (and related letters) along with a sub-Mendelsohn style of architecture.

Although Gill Sans was admittedly based on Johnston's Sans, and was first used to letter a painted shop-sign, the fact remains that it reached the average sign painter as a typesetting face, adapted to the technical necessities of type-founding and punch-cutting, the product of a tradition alien to most of the situations to which





it was applied on the railways. Not only were the letter-forms strange and new, but their family relationships and the niceties of spacing they demanded were strange too. Left to his own devices with such forms, the railway sign painter—and this goes for other typographers' faces besides Gill—soon showed that it is possible to have first-class craftsmen, elegant letters, and execrable lettering.

The established kind of apprenticeship training, even with the addition of day-continuation study for the City and Guilds certificate, is clearly inadequate to this changed situation. So, too, is the routine method of promotion of railway staff, which often produces the situation that a man with no skill or experience in lettering is the effective arbiter of the quality of design in this field. It is clear that if the initiative in the design and application of lettering is to go to an outside consulting expert, as is now so often the case, and the sign-writer is no longer asked to conceive the work he executes under the guidance of a tradition to which he himself is a contributor, then excellence in the end-product depends on a drastic revision of the present set-up.

Firstly, it seems self-evident that ultimate control and responsibility for the whole continuing programme of lettering must rest with a consultant designer; he cannot be turned on and off like a tap, but must see the job right through. Secondly, the position of the craftsman must be overhauled. It would be possible, no doubt, to give him completely packaged instructions, down to the last detail, and reduce him to the condition where it would be simpler to replace him by a photographic technique for reproducing given logotypes to any size. But even the metal-built coaches of a fully nationalized, electrified or dieselized railway system are not completely standard goods, quite apart from hard cases like repairs and renovations, station lettering, and so forth. A vastly better solution would be craftsmen with a fuller training, supervised by even better-trained staff able to make effective liaison between craftsman and expert. If the big promises implicit in British Railways hiring the services of men like F. H. K. Henrion and Misha Black are not to prove flashes in the pan, something must be done to provide more enlightened and effective realization of their ideas on the workshop floor.

The present chaos of railway lettering:
10, *surviving nineteenth-century sanserifs.*
11 *and* 12, *Gill Sans indiscriminately and everywhere, often with excessive spacing, typical of the thirties and forties.*
13, 14 *and* 15, *fashionable grots of the fifties, used with varying sensibility and legibility.* 15 *would presumably be an Egyptian if a full alphabet of it existed at present it is used only to number diesel passenger locos.*

WORLD

Beginning with this issue, the AR intends to simplify its coverage of world architecture by uniting, under one heading, items previously distributed in various parts of the magazine. As before, however, the coverage will consist chiefly of buildings described and illustrated for their inherent interest, as well as those included in foreign magazines for the sake of the trends and movements they exemplify.

FACTORY IN NEW YORK

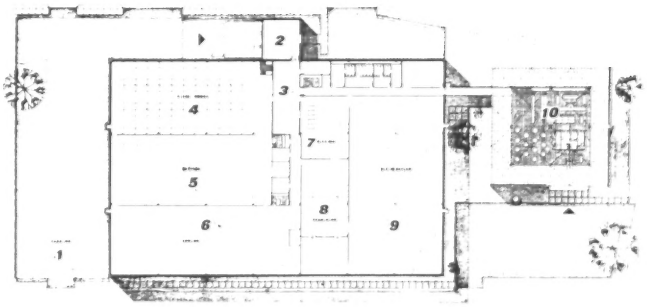
ARCHITECT: ULRICH FRANZEN

The entire process of manufacturing coats, from raw material to packed goods, is handled in the main block, with offices, canteen, etc. in the smaller structure.

Key to plan: 1, car-parking; 2, stockroom; 3, entry area; 4, piece goods; 5, cutting room; 6, sewing room; 7, dispatch; 8, examination; 9, distribution; 10, offices.

The planning and methods of the garment industry in the US have hardly been revised since the nineteenth century; this is the first modern plant for manufactures of this kind, and had to be laid out from first principles.

1, the office-block with factory corridor beyond.



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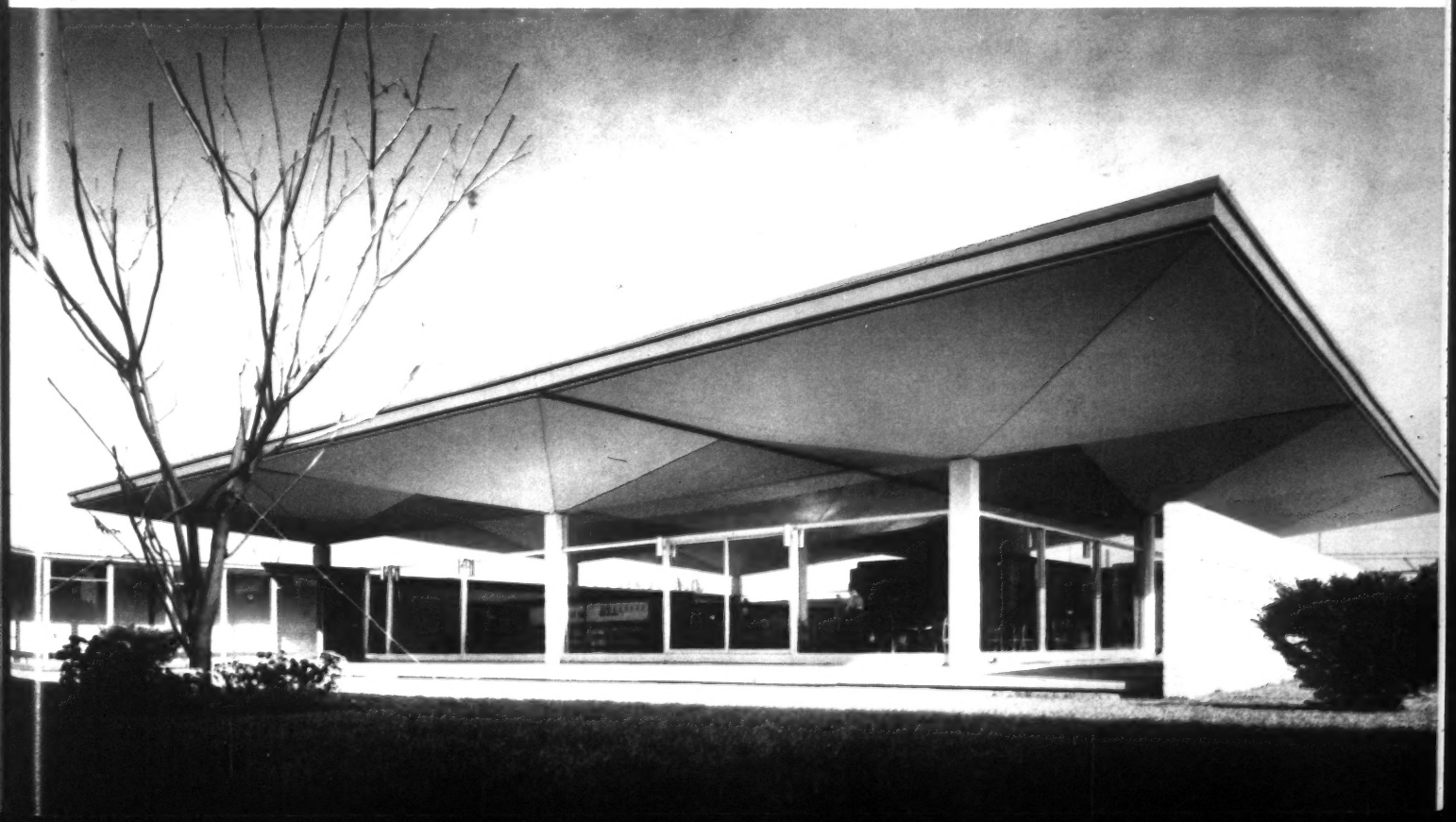

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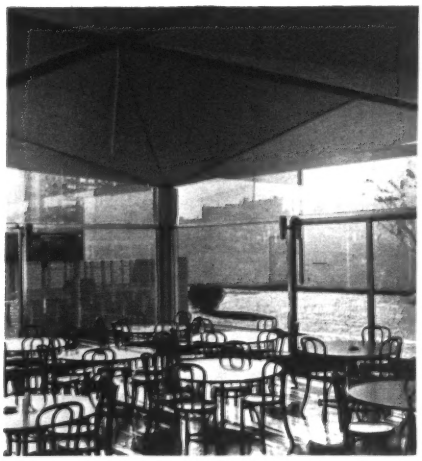


3

Factory in New York

2, the covered walk round the office area, with screen-wall on left and the wall of the factory block beyond. The structure of this block consists of nine steel 'umbrellas' carried on steel columns, and joined to make three hinged arches. Glass walls between the outer columns create an enclosed pavilion.

3, the light and airy effect produced by this type of structure is seen in this view looking outwards toward the corner of the canteen area, the corner column being the same as that in 2.

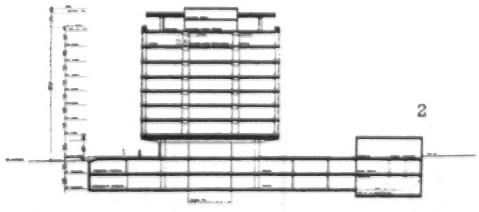
BANK IN BRUSSELS

ARCHITECTS: SKIDMORE, OWINGS AND MERRILL

The project is intended to house a private banking firm, on a site facing the Avenue Marnix, Brussels, and a private pent-house for the proprietor's family on the roof.

1, the main structure of the upper parts of the building consists of cruciform pre-cast concrete units, each tier supporting that above through stainless steel ball-and-socket joints, the cross-member forming permanent shuttering for the edge of the concrete floor-slabs. Windows are set back from the structural grid, leaving a walkway for cleaning and other services.

2, the section shows how the weight of the structure is transferred from the outer wall to rows of set-back columns by a massive slab at first-floor level. Banking rooms are on the ground floor, with parking and services below.



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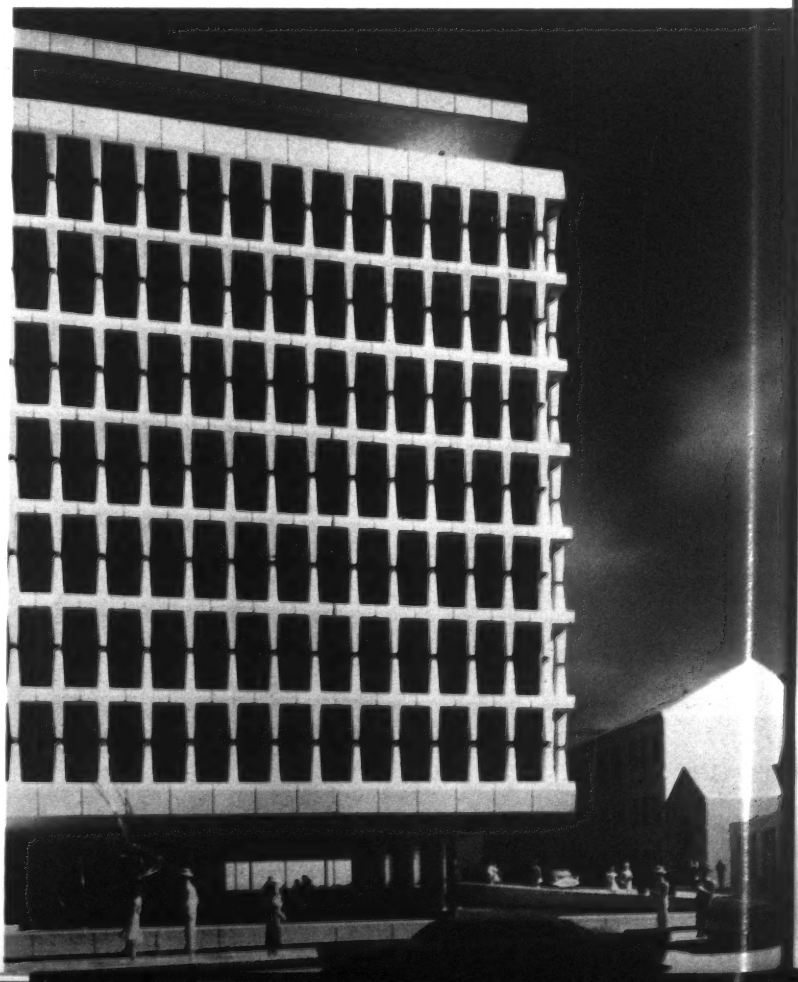

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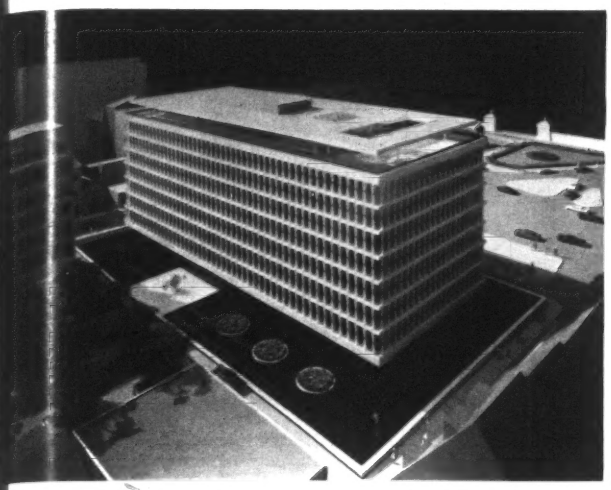


3

Bank in Brussels

3, the scale of the block, both in bulk and in detail, was largely conditioned by the dominantly residential neighbourhood in which it is located, while its noticeably monumental form and surface treatment arose from considerations of its aspect, looking down the Place du Trône toward the Palais Royale. The whole structure is set up on a travertine-faced podium, whose surface, outside the limits of the enclosed area of the ground floor, is almost entirely occupied by a reflecting pool with island flower-beds.

PETROL INSTITUTE IN RUEIL

ARCHITECT: PIERRE DUFAU

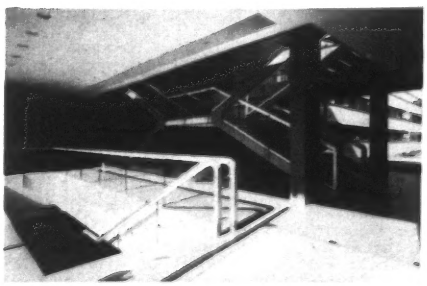
The two conjoined wings of the building house offices and teaching-spaces respectively for the French Petroleum Institute, whose work has expanded considerably as a result of oil-strikes in the Sahara.

1, the circulation block, between the two main wings, housing staircases and the entrance, the projecting porch with its two sets of swing doors being an all-metal structure. The main load-bearing construction throughout is in reinforced concrete, the teaching block, left, having very large clear-spans between supports, and is faced in polished black Swedish granite, reflecting the trees in the open grounds of the Institute.

2, the entrance-hall, showing part of the elaborate system of interlacing metal staircases, descending to basement level (foreground) and rising to higher floors, beyond. The balustrades are filled in with plate glass, and are braced by glass struts on the outside of the stairplates.

3, the rear (road) side of the circulation block, with the back of the teaching wing on the right.

1



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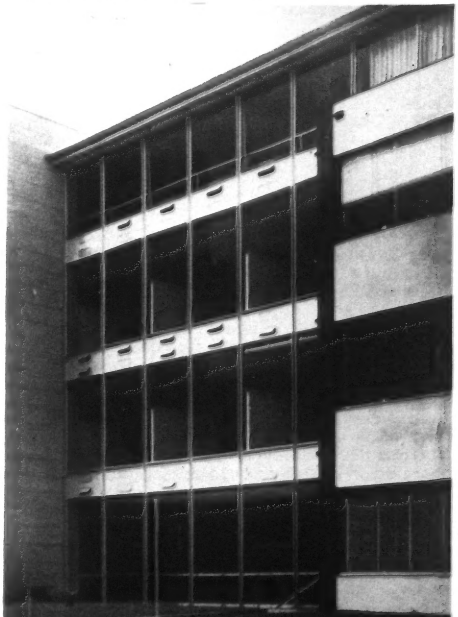

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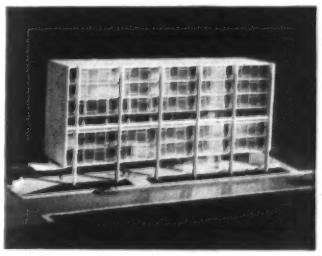
WORLD NOTES

Straight Niemeyer

Those who believe, on the strength of Brasilia and some earlier works, that Oscar Niemeyer has 'gone curved,' or 'relapsed into Brazilian Neo-Baroque,' or has abandoned rational structural form, might do well to take note of a project for a public library building in Florianapolis, 1, designed by him in collaboration with Flavio de Aquino. The

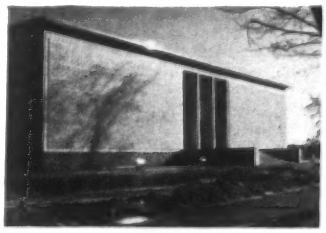


1, *public library in Florianapolis.*

structure here is as 'rationalist' and as rectilinear as in any Mies-school work in North America, and for very similar reasons—just as in Skidmore, Owings and Merrill's *Inland Steel* building, the stanchions have been moved outside the main envelope in order to leave the internal floors unobstructed, but Niemeyer has carried his stanchions clear of the facade, leaving an appreciable air-gap—more than a foot—behind them.

Canadian Galleries

Although the proposed National Gallery of Canada, described below, is among the most important museum projects in North America, it has been temporarily overshadowed, in the public eye, by the Lord Beaverbrook Art Gallery in Fredericton, New Brunswick, designed by the Fredericton architect Neil M. Stewart. Although its disappointingly old-fashioned and classicist exterior, 2, might not suggest it, the design of this gallery subscribes to the accepted Functionalist idea of evenly diffused top-lighting in all display spaces. As its name implies, this building will eventually house Lord Beaverbrook's



2, *the Lord Beaverbrook Art Gallery in Fredericton.*

gift of works of art to his fellow-Canadians.

The National Gallery of Canada project is a different affair in practically every way. The outcome of a two-stage competition to which an undecided jury finally added a third stage (at which point the site was changed, quite independently of their difficulties in reaching a decision), the approved design is a tidy, three-storeyed rectangular structure, with a suitably formal air, 3, designed by the Winnipeg firm of Green, Blankstein, Russell and Associates. The model photograph shows it on the new site, overlooking Green Island Park on the outskirts of Ottawa, and it also shows the two features of the design on which the Jury commented at some length in their report—its obviously Miesian inspiration, and

3, *the winning design for the National Gallery of Canada.*

4, *perspective of one of the courtyards.*

the extensive external glazing, which is right against the grain of current thought on gallery design. The Jury, which included Alfred H. Barr, Eero Saarinen, and John Bland, of the McGill Architecture School, appear to have satisfied themselves that the Miesianisms were seriously intended, and not just applied aesthetics, but on the other point they said 'The Jury is not in sympathy with clear glass, and wishes to go on record on this matter,' and went on to explain that their worries included, e.g. the visual confusion caused by the visibility of multifarious internal activities of different sorts, mostly beyond the architects' control. However, some of the published perspectives of the scheme, 4, suggest that this kind of effect may have been deliberately cultivated, in some degree, and the final solution is, therefore, awaited with interest.

Look Back in Aluminium

Recent programmes of research and publicity sponsored by the Aluminium Giants of North America have done much to establish the material in the public mind as the brave new building material *par excellence*. The Reynolds Company's *House of Ease* programme, which offers 'at minimum cost, a complete package of thirty or more aluminium building products from threshold to roof (which) cuts heating and air-conditioning costs, and gives . . . more leisure through liberation from maintenance' sounds like more of the same, until one sees what a typical *House of Ease* looks like, 5, complete

5, *one version of the aluminium house.*

with its coloured aluminium roof-shingles. It is just as well that most architectural thinkers have now given up the old Rationalist-Functionalist dogma about materials and techniques dictating architectural form, but even so, it is difficult not to feel a twinge of split-level schizophrenia at the application of this outstandingly neo-technical material to what remains, in bulk, a paleotechnical conception of the dwelling. There is, perhaps, some comfort in the fact that most contractors who are pioneering the *House of Ease* programme also offer 'contemporary models.'

Japanese Maturity

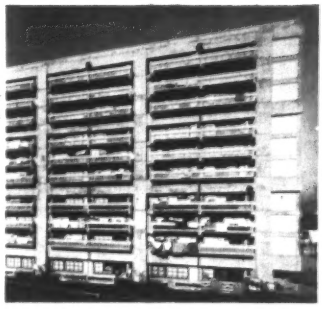
The award of the first *Grand Prix Internationale d'Architecture et d'Art* (organized by the French magazine Architecture d'Aujourd'hui) to Kenzo Tange is, one suspects, more than just an award to one man and two buildings, it is also a recognition that the modern architecture of Japan is growing up. The two buildings cited in the award are Tokyo City Hall (Marginalia, December, 1958) and the Sogetsu Arts Centre, 6. Both underline what seems to be the settled trend of large-scale Japanese architecture toward reinforced concrete and thickly plastic structural members, a trend that has reached a remarkable degree of power and maturity in a new apartment block in Tokyo that must surely rank among the outstanding buildings of 1959.

The Harumi Apartment Building, designed for the Japan Housing Corporation by Kunio Maekawa and Associates, stands, at first sight, 7,

6, *the Sogetsu Arts Centre.*

7, *the Harumi Apartment Building.*

astonishingly close to a great deal of recent (unbuilt) English thinking on the subject of high-rise apartments. Conceived as a Neutral Technological Frame with the minimum of applied aesthetics, it is, effectively, a street-deck scheme with access decks at every third floor, stairs going up and down from the deck to floors above and below, with a massive slab of structure and services dividing one three-storey sandwich from the next. The frame is of thick and very *brut* concrete, but the type plans that have been slotted into it are—to Western eyes—very delicate and Japanese, with planked and

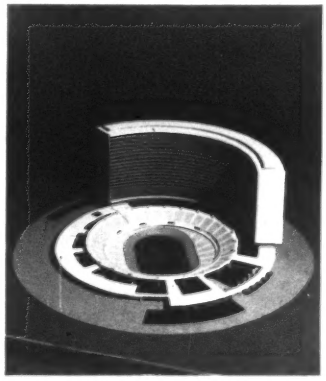


8, *washing on the Harumi balconies.*

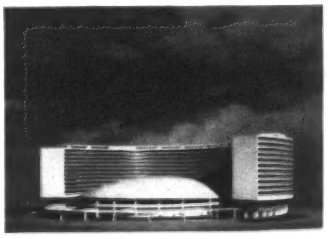
matted floors, sliding screens and alcoves. Indeed, the widespread discussions of the scheme in Japanese magazines have often taken the line that this basic frame can take anything, including a generous display of washing and airing, 8, or the invasion of its street decks by the local delinquent gangs the superficial resemblances to Brutalist aesthetics seems to be matched by a similar, but deeper, resemblance to the Brutalist concept of every new building a contribution to the leading of a fuller, urban life in the city.

New Vel D'Hiv

The old *Velodrome d'Hiver* has nearly as secure a place in the mythology of the school of Paris as the Cirque Médrano where was it, after all, that Le Corbusier had his decisive thoughts about the staircase of the Villa at Vaucresson? The new *Vel d'Hiv* (as the institution has



9, *the Vel d'Hiv by Pierre Dufau.*

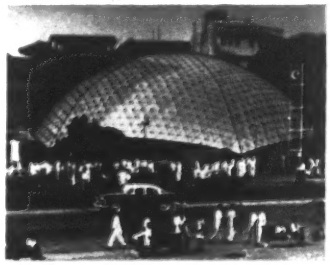


10, *the alternative, lower scheme.*

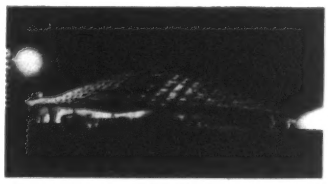
always been called), 9, designed by Pierre Dufau, is to be at Puteaux, and will join the cluster of remarkable buildings (such as the new CNIT exhibition hall, AR, November, 1958) around the Place de la Défense. An interesting point in the aesthetics of large developments of this kind is raised by an alternative scheme, in which the Velodrome is backed up by a block only fourteen storeys high, but embracing more of its circumference, 10. Which is better, a twenty-two storey backdrop, or a fourteen-storey 'wall' which defines the rotundity of the building at its foot?

Featherweight Domes

Long after Bill Stout's Ford aircraft and pioneer dream-cars have been forgotten, his celebrated motto 'Simplicate and add more lightness,' will be quoted wherever the frontiersmen of technology forgather. It is a slogan that has become almost a way of life in dome design, and a good example of it in action is provided by the first-fruits of Buckminster Fuller's visit to India. The two domes built for the enlightened Sarabhai company (a patron of Le Corbusier, it will be remembered) to house what might be termed the Calicloth Road Show, are of almost identical diameter (100 feet) and serve the same function, to shelter the 700-odd spectators at mannequin parades advertising Calicloth products. Both answer to the normally high standards of performance expected of Geodesic domes but as between the first Calicloth



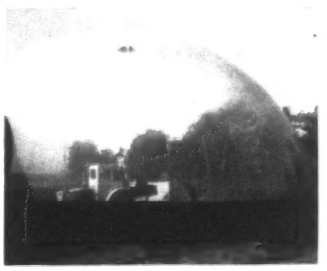
11, *the first Calicloth dome.*



12, *the second dome by night.*

dome, 11, and the second, 12, which stands only two-thirds as high, a saving of fifty per cent in the footage of structural piping has been achieved and a reduction of one-third in the area of water-proofed cloth needed to cover it.

But, clearly, simplification and the addition of lightness can be carried even further if, say, the structure can be omitted, and the possibilities of skin-only domes have been carried almost to their ultimate as a recent pneumatic bubble created by the Birdair Company of Buffalo demon-



13, *plastic bubble warehouse.*

strates. This consists simply of a skin, 13, of Mylar plastic film, sixty feet in diameter at the base ring, held up by a slight difference of pressure between internal and external air. Foldable, transportable and remountable, it is to be used as a movable warehouse.

EXHIBITIONS

PAINTINGS

There is a certain kind of picture that looks at its best in the Royal Academy Summer Exhibition: it finds a perfect setting in the huge, disorderly context of weaker and more sensitive, stronger and more vulgar pictures which the Academy incontinently provides: in return, it gives the Summer Exhibition a vestigial and faintly surrealist dignity. There is no precedent in the best traditions of the Academy for the pictures I have in mind, since they are characterized by extreme coldness and hardness, and these are qualities which are not as a rule considered to be praiseworthy. But in the humid, swampy, over-populated conditions of the Summer Exhibition an excess of coldness and hardness expresses the presence of an elite. Only a very tiny elite; one that has not moved with the times, and has no ear for the glutinous ticking of Dali's soft watch.

It is not difficult to find pictures which are *moderately* cold and hard, but the moderation is produced by a kind of mental deliquescence. Norman C. Blamey, for instance, gives a neat, clear but purely journalistic account of an interesting visual situation in a picture called 'The Liturgy of Good Friday,' starring three clerics lying flat on their faces. Another work in the same genre, Anna Zinkeisen's 'Night Duty' is less efficient, and although the painter has confronted herself with a thoroughly picturesque scene, her picture is only a vivid account of the strain to which it has put her technical resources. This is a pity. The subject is of a kind that would cover the shortcomings of a commonplace talent if they were not unreasonably short: the sight of nurses round a desk lamp in a darkened ward operates in the average mind as an optimistic emblem of the human situation, and it is a very bad sign indeed if the Academy can't produce a 60-watt tenebrist capable of leaving the automatic associational values of such a scene undiminished.

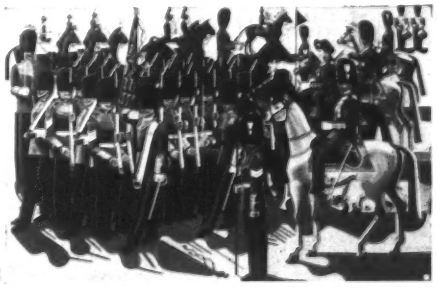
A hard, cold technique needs the support of a compulsively refrigerative vision before it can produce an interesting travesty of reality. Only two works in the exhibition disclose the line that paralyses and a coldness of colour that burns. One is 'Hulks,' 1, by Tristram Hillier; the other is 'The Trooping of the

1

Colour,' 2, by William Roberts. The theme of both these works, conscious or otherwise, is the cessation of change.

In Hillier's painting, which looks as if it has never been touched by human hands, the cataclysmic event which brought life and death to an end could have happened a million years before it was recorded, because it is clear that the broken boats are no longer involved in the process of decay. This world was swept and dusted on the last day, and not another speck has fallen out of the icy blue sky. It is an eery and fascinating work. Years ago, Hillier was influenced by Chirico, but in 'Hulks' he presents a kind of reversal of Chirico's landscapes of presentiment. This coastal scene is filled with the promise that there will never be another happening; it is a vision of total indifference, a detailed view of nothingness.

Roberts has transformed a Royal event into a taxidermal nightmare. As soon as



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one's eye accepts the invitation to tease out the ingenious pattern of bearskins and bayonets one becomes insufferably aware that nothing is really happening, that no figure is in touch with any other, that the soldiers who are sliding the right foot forward cannot adopt any other position, and one wants to push everything over, with a violent sweep of the hand. A companion picture along such lines, with those sliding right feet pointing woodenly at the sky, would have added immensely to the macabre pleasure afforded by the neat, cold intricacy of the design, and I'm sure that Roberts could have done it brilliantly. But it isn't likely that this picture is a joke. Roberts hasn't been starching and drilling the human figure all these years simply to provide us with elaborate light entertainment. He has held on to his cubist caricature of the figure through a long period of neglect, as if it were his claim to mastery, and he has been putting it through its paces with the obsessiveness of the most ruthless of martinets. In this military fantasy he has found at last the perfect image for the obedience, the dumb servitude that he has always demanded of his own creations, and thus in a small way has come as near to being a god as damn-it.

Without ever going down completely under the rain of wax fruit, bottles and clay pipes flung by the guardians of pure pictorial values, the art of Odilon Redon has for many years been seriously undervalued and condemned to partial obscurity by the activities of those critics who only feel safe from the seductions of contingent values when conducting a witch hunt against the 'taint of literature.' Half-blinded by the beauty of a thousand still lifes, they have only to note that a lithograph by Redon is an illustration to Flaubert's 'Temptation of St. Anthony' to be certain that all its values are 'literary.'

But during the last few years Redon has been rapidly coming into his own, and it is a sign of the times that an exhibition of his lithographs at the Arts Council was still running when a loan exhibition of his paintings, pastels and drawings came on at the Matthiesen Gallery.

Redon is a master in his lithographs and pastels but not in his oils. The best of his oils are small still lifes, close in spirit to the art of Fantin Latour, and completely out of touch with the poetic qualities of the pastels, where sudden collusions of colour provide glimpses of unseen worlds.

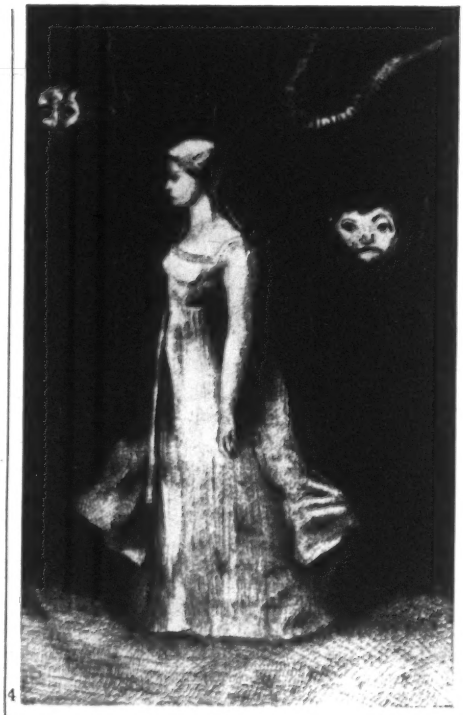
Our ratification of his highly personal visions springs from our response to his spatial ambiguities and his subtle handling of the partial emergence of forms. Oil painting never gave him the cloudy depths, the shifting, twilight spaciousness from which faces, flowers and grotesques could softly and roundedly, but never totally, obtrude themselves. He experimented rather desperately with 'grounds' and 'surfaces' which frequently remind us of the pastes of some of the more precious of the French adherents of informal abstraction, but they never achieved the shadowy penetrability of the pastels or the cavernous blacks of the lithographs, and instead of emerging through a veil of atmosphere, the figurative elements in the paintings cling, flat and outlined, to the painted grounds or, at best, are pushed into it. The figures in

the oils are thus of a quite different nature from those in the pastels. Those in the oils are symbols; they belong to various mythologies, and although it is evident that Redon has read a private meaning into them, we are not induced to speculate upon them. We are, in fact, convinced that they will be as cranky and involved as the symbolism of Blake. But when Redon uses similar forms in the pastels and lithographs they are not symbols. They do not have to explain themselves. If they meant anything before they became what they are, they have shaken themselves free. They do not 'stand' for anything; they are the pure yield of line and colour and have no other existence. They are as much pure pictorial reality as the apples of Cézanne. Even when he draws a portrait, as in the lovely monochromatic pastel called 'Le Dame au Manteau d'Astracan,' 3, the likeness is

3

committed by his characteristic use of the medium to the world from which he fetches his grotesques. The coat and hat are a protective darkness in which the face of the girl looms and forms like an apparition.

The lithograph called 'Hantise,' 4, is not among his very finest works in this medium, but it conveys some sense of the sumptuousness of his 'Noirs' and of the quiet and undemonstrative way in which his grotesques and nightmarish figments put in an appearance. Their studied indifference to the one whom they 'frequent' is an effect which Redon must have learnt from Bosch. The plate for Flaubert's 'Temptation' called 'Des Fleurs tombent et la tête d'un python parait,' is among his greatest works. The beginnings of serpen-



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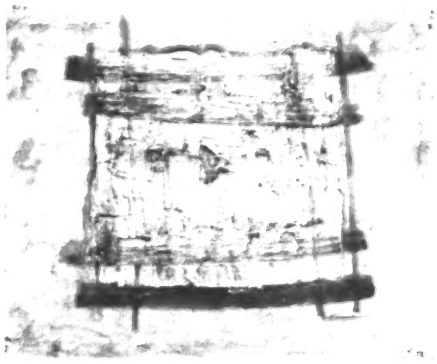
tine movement in the fragments of reptilian life in the foreground are so brilliantly conceived that the mind's eye completes these movements in the blackness beyond, and compels one to know that its marvellous velvetyness is alive with monstrous things. After Bosch, Redon is the greatest interpreter of the 'Temptation' theme.

Fautrier, one of the more precious of the French adherents of informal abstraction mentioned above and in fact considered to have had a start of several years on all the other producers of high-class belle-peinture in mud-pie form—has just held an elegant-looking show of recent paintings at the Hanover Gallery. He does not rely on size or brutality for his effects but on the charmingly confiding way in which

5

the pictures themselves seem to let one into the secrets of his procedure.

There is one earlier example of his work, 5, dated 1945, from a series of 'Hostages' which, according to the critic Michel Regon, are images of 'hostages shot before firing squads, their faces deformed by torture, punctured by bullets, faces reduced to a muddy, rose-coloured wound . . . living heads made into a paste, annulled.' The muddy rose-colour is enchanting, and as the horrible things that are supposed to have been done to the head have been annulled, the central dollop of paint where the head appears doesn't look much different from the central dollop of paint in the other pictures, except that many of the new ones are roughly rectangular, 6.



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These areas of thick paste, delicately flushed with colour, are set on darker grounds of colour bearing lines and scribbles which still show at the edges, and these marks are continued in lighter colours across the face of the paste. It is all done with taste, and there is no doubt that this curious game does something for the eye because the gouaches which follow the same recipe without having raised and grooved surfaces are extremely commonplace.

Robert Melville

COUNTER-ATTACK

INFILL AT WALLINGFORD

Successful urban infill requires equal parts of visual courage and respect for the genius loci; that these are not mutually exclusive is proved (as if proof were still needed) by Morton and Lupton's scheme for Priory Mews at Wallingford. The site is the old kitchen-garden of Castle Priory, which—as the map shows, 1—is located close to the centre of the town, in an area that is, visually, well built up with walled enclosures. Access is by a ramped road down from the town side, and steps from Thames Street, into a

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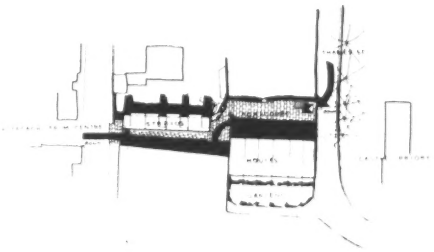

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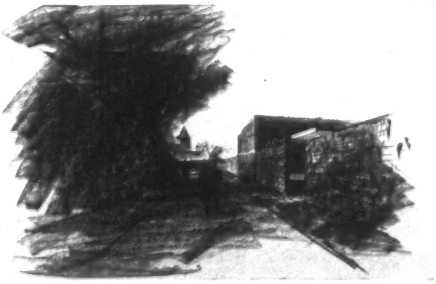
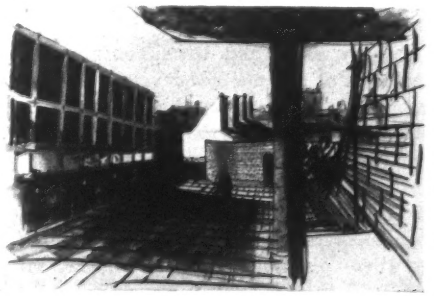
forecourt serving houses at one end, studios at the other, 2.

Passing along Thames street, which is walled on both sides at this point, one



sees only the blank end-wall of the terrace of houses, and a gap cut in the existing wall, 3, which provides access to the steps down into the forecourt, the actual

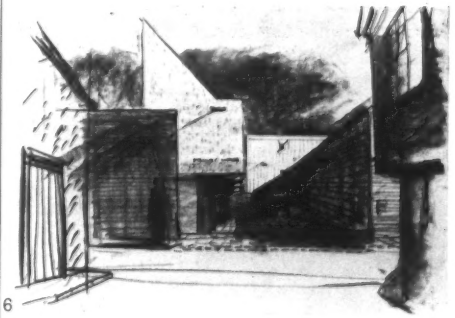


entrance being marked by the concrete canopy seen in both 4 and 5. From the top of these steps, 4, the steeply pitched roofs of the studios are seen at the far end of the courtyard, functional shapes that nevertheless pick up the characteristic

5

roofscape of the old town beyond. An existing feature of the townscape and pedestrian circulation of the Thames Street area that has been retained is the tunnel under the street, giving access to Castle Priory gardens, at the end of the terrace in 5.

At the town end, 6, the entrance is a visual continuation of Hart Street, and



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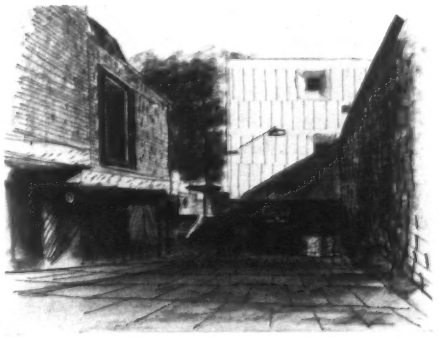
lies only 100 yards from the Market Place. The roofs of the studios stand up behind the old flint and brick wall of the garden, which has been retained, though cut back



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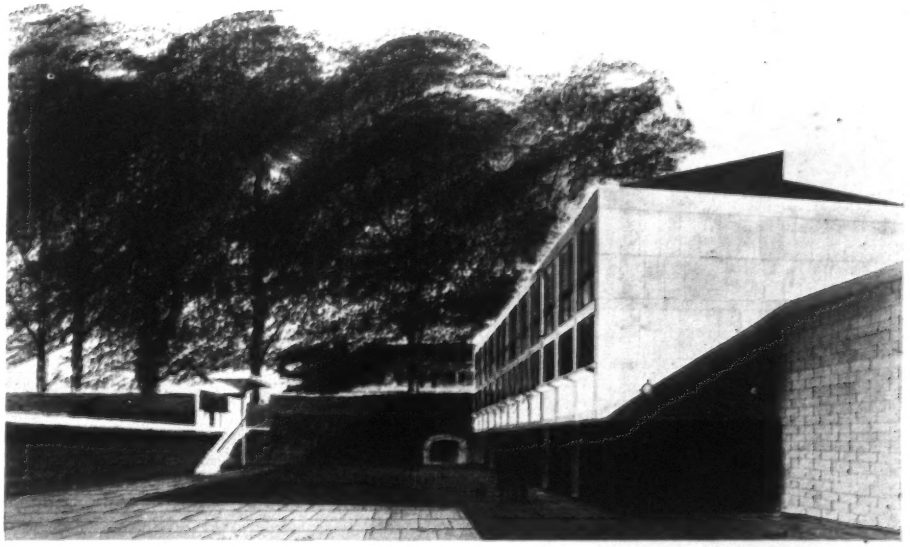
somewhat for the sake of the sight lines. The narrow part of the forecourt runs down past the studios to the key point of the whole scheme, 7, where the space with



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new work (studios) on the left changes over to a space with new work (terrace) on the right, giving the first view of the Thames Street wall beyond. This point is a crucial one in the whole design, since the area adjoining Thames Street lies in a part of the town whose character is entirely different to that of the Hart Street end; it is, inevitably, the visual dominant of the whole, 8, but it would be bad townscape manners for it to be too visible from the town end. **C. Forehoe**

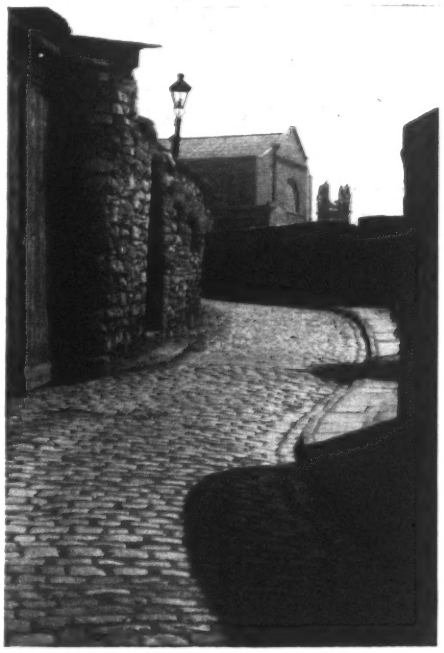
FLOORSCAPE

MEANS OF ASCENT

As every pedestrian knows, the character of the town's floor is never more important than when it isn't level. In such places not only must the texture be studied with the same care as elsewhere, but the actual conformation of the surface must be controlled.

Generally the choice is thought to lie between steps and slope. What isn't widely enough appreciated—or if appreciated, not often enough acted upon—is the fact that there are a number of solutions in between these extremes, in short that there are many *means* of ascent. One of them is shown in the photograph below, 1 (Salamanca, Spain); here we have not steps exactly, but rather a ridged slope. In the photograph above, 2 (Harlingen, Holland) we again see something between steps and slope, but this time coming closer to the latter than the former. Note that an alternative method of ascent is offered by the brick ramp, just as in the English example, 3 (Whitby, Yorks) there is the choice between ramp and steps: indeed 'freedom of choice' is no bad ideal to bear in mind when planning ascents.

2



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4

1

In 4 (Tarragona, Spain) the cobbled roadway has transverse bands of larger stones which have much of the psychological effect of steps for the pedestrian—each band achieved is that much nearer the top—while not at all incommoding wheeled traffic. Note also the pleasing variety introduced here by sinking the stepped pavement on the right below road level, while that on the left is raised above it, and by the long-short-long rhythm of the latter in contrast to the even rise of the former; altogether this is an extraordinarily happy fragment of townscape.

Nearly every old town contains some example of a change of level effected in a practical yet imaginative fashion. Yet when the same thing has to be done today instead of using imagination we take refuge, more often than not, in one of two or three stereotyped solutions. The time has come to think again, and the purpose of these photographs is to provide some food for that thought. **Marcus Whiffen**

SKILL

PITCHED ROOF COVERINGS

by Peter Whiteley

4, corrugated sheet coverings

No pitch roof covering is more characteristic of our industrial building technique than the corrugated sheet. Unfortunately its development in a period when cheapness was taken to imply visual carelessness has left it with a set of unresolved aesthetic problems. The purpose of this article, however, is not so much to consider these as to rehearse the properties of this class of product and the technical (and cost) considerations that must be taken into account when using it.

Although on grounds of appearance only, this category of roofing materials, sheet coverings, would seem to merge with the third group of semi-continuous coverings, the distinction between them is constructionally a clear one: that all the materials in this group are more or less strong in bending (in one direction) due to their properties of section, and, therefore, require only occasional support. It follows from this that the most appropriate and commonly used supporting structure for these materials is one of trusses and purlins, whether of steel, timber, precast reinforced concrete or light alloys.

Weather resistance

Comparing this group of materials with unit coverings, the causes of leaks in roofs of sheet material may be one, or a combination of, the following:—

1. Water may find its way over the heads of the sheets; if this occurs it is due to the roof having too low a pitch for the lap.

2. Water may be blown by wind pressure over the side joint between adjacent sheets; this is probably primarily due to the side lap (whether plain or interlocking) being inadequate for the degree of exposure, and to a lesser extent, the pitch.

3. In time, water may penetrate the fixing holes for a variety of reasons: corrosion of the sheet material or fixing; breakage at the fixing point due to thermal movement inadequately allowed for—or to ageing of the material, leading to brittleness.

4. As in unit coverings, leaks frequently occur where the sheet material finishes against, or joins with, the surface of another material; verges, abutments, ridges, open valleys and roof lights are such situations.

Of these four cases, the first is essentially a matter of the roof pitch, whilst 3 and 4 are connected with the pitch only in so far as, on roofs of very low pitch, water shedding takes place more slowly and, therefore, there is a greater likelihood of trouble on these two counts.

With sheet materials it is a very easy matter to increase the head lap from 6 in. to 9 in. or 12 in. if a low pitch is required or if the site is particularly exposed, as most sheet materials are available in a multiplicity of lengths (commonly in increments of 12 in.). Water entering by capillary attraction at the head lap and to a lesser extent at the side lap) is not as likely as with unit coverings, because: (*a*) the fixings are entirely mechanical (i.e. not involving any additional material such as mortar or adhesive); (*b*) roofing sheet materials are largely non-absorbent (with the exception of asbestos-cement); and (*c*) the profiles of the sheets are so designed (in particular the corrugated profiles) that lapping surfaces are non-continuous.

With the development of manufacturing processes in this field it is now possible to obtain sheets of both steel and aluminium up to 35 ft. in length, which on roofs of 35 ft. or less from ridge to eaves, enables the problem of end lap to be eliminated entirely. In the matter of side lap there is also some degree of flexibility: with nominal 3 in. pitch corrugated sheets the side lap can be varied, 1, 1½ or 2 corrugations, according to the degree of exposure expected. It is also recommended good practice to lay sheets with their exposed side edge(s) away from the prevailing wind. The other common patterns of corrugated sheet appear to give adequate protection with one corrugation side lap. On the third factor may largely depend the effective life of the roof, and so the development of completely concealed fixing methods for roof sheeting systems is a big step forward constructionally (and visually); some examples of these are 'Fural' aluminium alloy; 'Snaprib' (Northern Aluminium Co. Ltd.); 'Multiclad' (in both aluminium alloy and 'Galvatite') and 'Kynalok' (I.C.I. Ltd., Metals Division) though the latter is primarily a vertical cladding system.

Pitch

The above factors, sheet length, efficiency of side lap, and concealed fixing, taken together, are the main reasons why roofs of appreciably lower pitch are possible with sheet materials than with unit coverings; in fact sheet coverings can be laid nearly flat.

Durability

a. asbestos-cement

As this group of materials is one of manufactured products all of fairly recent development, and one which is steadily improving in performance, it is difficult to be precise about durability. In the case of asbestos-cement the following extract is taken from CP. 143.201 (1951):—

'Asbestos-cement, on exposure to the weather, will be affected in the following ways:—

(*a*) The surface will become slightly softened owing to solution of the cement by chemical action on exposure to the atmosphere.

(*b*) Increased brittleness with age will reduce resistance to impact.

(*c*) Slight expansion, shrinkage or curling may cause breakage if the sheets are fixed too rigidly to the roof structure.

'This type of roofing is not normally suitable where the roof may be subject to impact . . . Durability depends mainly on the degree of acid pollution of the air. . . .

'Asbestos-cement sheeting may be regarded as having a life of at least 30 years. There is, at present, insufficient experience of the material to ascribe to it a life much in excess of this, and it is considered that if a longer life is required of the roofing, fixing accessories more durable than galvanized iron or steel, such as copper, should be used' . . . and later . . . 'Reinforcement in the sheeting does not necessarily justify any increase in the purlin spacing. It does, however, provide greater safety against impact.'

b. galvanized steel

As far as galvanized and/or 'protected' sheet steel is concerned, it is reasonable to expect a similar life of 30 years and upwards, dependent upon atmospheric conditions; here, again, the limiting factor is a combined one of the durability of the fixing accessories, together with the corrosion resistance of the sheet where it has been cut and pierced. Steel sheets are invariably galvanized before fabrication into sheets and 'protected' before fixing, so the adhesion of the protective coating (of whatever composition) to the sheet is critical. There has been considerable improvement in the effectiveness of the zinc-on-steel coating with the development of 'tight galvanizing,' though it should be kept in mind that zinc has a far higher corrosion rate than either aluminium, copper or lead. (Cf. Symposium on Atmospheric Exposure Tests on Non-Ferrous Metals, published by A.S.T.M., February 27, 1946.)

It is also possible to vary the thickness of the zinc coating in order to increase the corrosion resistance of the sheet; both 'Galvatite' and 'Speltafast' are produced with four different coating thicknesses for standard sheetings (in ounces of zinc per square foot). In the case of 'protected metals' where the protective coating is essentially bitumen and asbestos fibres, it is not altogether a good thing to increase the thickness of protective coating beyond a certain optimum in order to increase the corrosion resistance, because this carries with it an additional fire risk.

c. aluminium

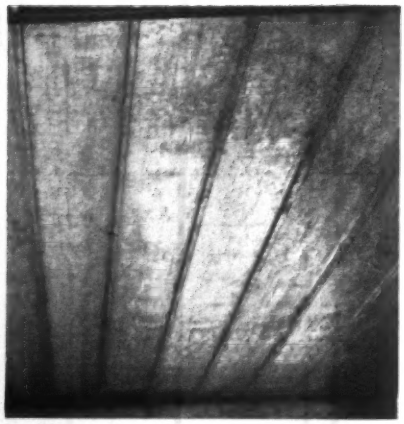
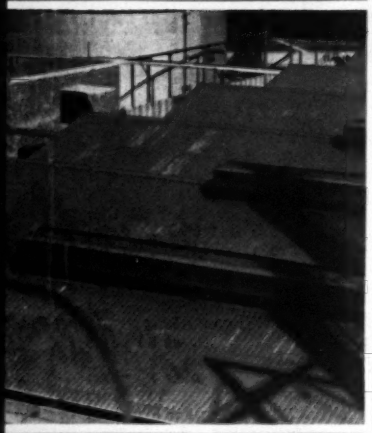
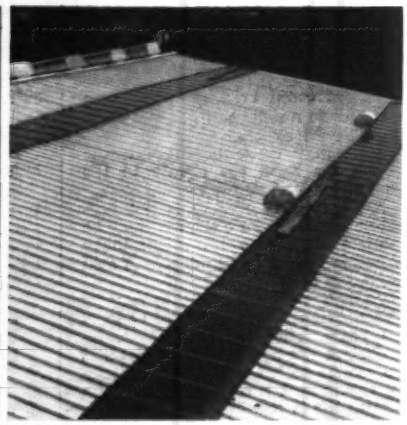
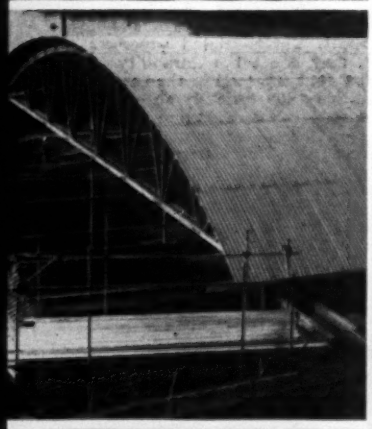
Most aluminium alloy roof sheetings are of specification NS3 of B.S. 1470 and extensive corrosion tests have been carried out on this material over the last twenty years in the USA. From them the following conservative figures for expected life of 20 s.w.g. (.036 in. thick) sheet of alloy NS3 have been obtained:—

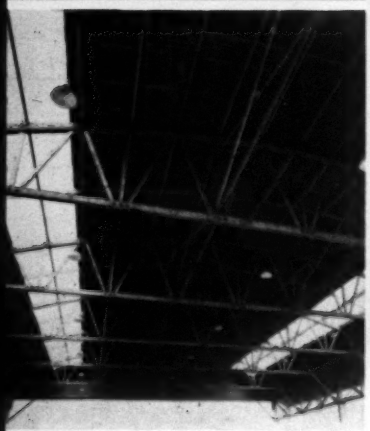
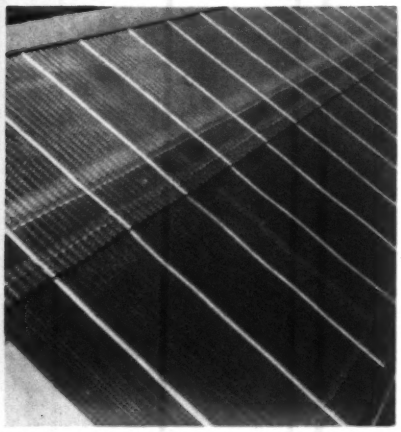
In severe coastal conditions over 50 years
In industrial conditions over 50 years
In rural conditions over 100 years

With aluminium alloy the expected life of the roof may be increased simply by increasing the thickness of the sheet. Three related processes which may affect the durability of metal sheet roofs (and in the case of aluminium alloy seriously so, unless appropriate precautions are taken) are those of electrolytic action caused by contact with another metal, chemical attack by other materials, and attack caused by the oxygen-excluding action of a water-laden substance in close contact with the aluminium. All these kinds of attack are dependent on the presence of moisture.

Contact with other metals: it is inevitable that aluminium alloy will come into contact with mild steel or wrought iron at some time; the contact surfaces of both should be painted and where possible a mastic compound placed in the joint on assembly. As far as possible aluminium fixings should be used; if steel bolts have to be used they should be cadmium plated or galvanized. Lead is normally harmless in contact with aluminium; in severe industrial or marine atmospheres, however, contact surfaces of both metals should be painted for protection. The interaction of copper and aluminium, in the presence of moisture, is so pronounced that direct contact between them (and copper alloys, brass or bronze) should not be allowed to occur. Contact between aluminium and zinc is permissible.

Contact with other materials. Contact with certain timbers, cement, concrete, lime mortar, plaster (particularly anhydrous gypsum plaster) may all cause corrosion of the metal in wet or damp conditions and should be avoided by painting one of the contact surfaces with two coats of bituminous paint (in the case of timber, it is probably more convenient to paint the timber with aluminium priming paint). Where aluminium alloy is laid in close con-

1 | 2
3 | 4
5 | 6
7 | 8

1, *standard Six asbestos-cement sheeting*. 2, *'Multiclad' tight galvanized steel sheeting on 1 ft. module*. 3, *'Kynal' troughed aluminium sheets*. 4, *'Noral Snaprib' aluminium sheet*. 5, *Curved 3 in. 'Timinium' building sheet*. 6, *'Corroplast' laminated plastic sheet*. 7, *'Filon' resin bonded glass fibre roof lights*. 8, *3 in. profile type 'Corroglaze' 'G' wired*.

tact with any substance capable of absorbing water, corrosion may take place through the exclusion of oxygen, and it is necessary to protect the sheeting by a layer of building paper or sheathing felt.

Finishes

Finishes are not the strong point of this class of roof covering. Asbestos-cement sheets, even when coloured, have a drabness when new (as have many other building elements containing cement); nor can it be claimed to improve with age, as this process is usually accompanied by greater unevenness of colour and dirt staining. If asbestos-cement is to hold its own against its newer competitors in the roofing field, the manufacturers will have to concern themselves more with improving its integral finish, without resorting to paints which require regular renewal.

A similar criticism may be made of the 'protected metal' finishes which are in effect a bituminous coating (black or coloured) of substantial thickness; the only 'weathering' which takes place is that the sheet acquires a coating of dirt rather faster than other comparable materials because of the nature of the surface and dependent on the degree of atmospheric pollution.

In the case of unprotected galvanized sheeting, the zinc soon loses its pleasant spangled appearance and becomes a matt grey to black, dependent on the degree and nature of pollution. Of course, galvanized sheeting *can* be painted, though to have to paint a roof every three years or so seems an answer born of desperation.

The only material in this category which probably retains its initial appearance over a considerable period is the opaque plastic 'Corroplast,' though as yet the colours in which this material is produced are rather conventional and uninviting.

Aluminium can be finished in a greater variety of ways than any other material in this group. Because of its high natural durability, it is normally used straight from the mill, a finish which has a fairly high incidental polish. Where sunglare and high direct reflection are undesirable, an embossed stucco finish may be applied which reduces glare and disguises accidental scratches, without diminishing the actual reflectivity of the material. Under these circumstances the aluminium will acquire its characteristic grey oxide patina in 6–18 months, dependent on the atmosphere. However, where it is desired to modify the natural colour and/or provide additional surface protection, three types of applied finish are in general use: two of these (chemical oxidation and anodizing) depend on an artificial thickening of the natural oxide film, and the third consists of the application of a paint or lacquer.

Chemical oxidation, of which there are three common methods (the M.B.V., Pylumin and Alocrom processes), destroys the initial brightness of the metal and increases its initial resistance to attack. A range of colours from grey, grey-blue to pale green can be obtained by this means.

Anodizing, an electrolytic finish, imparts a very hard oxide coating to the metal, which may be additionally dyed to produce a finish of virtually any colour. By comparison with chemical oxidation, this is, as yet, rather expensive. In highly corrosive conditions it may be necessary to paint an aluminium roof, and, if the correct pre-treatment is carried out, a paint can have a considerable life, noticeably longer than the same finish on a wood or ferrous metal base.

Thermal insulation

The Thermal Insulation provided by asbestos-cement and steel sheetings without additional insulation is low; e.g. a normal 3 in. pitch corrugated single sheeting provides a 'U' value of approximately 1.40, whilst a double skin roofing sheet (without additional insulation) provides a 'U' value of .70; in the case of galvanized and 'protected' steel sheet the 'U' value for a single skin is between 1.20 and 1.00. So that for both these types of material to reach a reasonable 'U' value of, say, .2 to .25, additional insulation must be provided, either between a double skin of asbestos-cement sheets or as a completely separate semi-rigid insulating layer. On the other hand, a bright aluminium alloy surface has a high reflectivity and a low emissivity for all radiations. These properties, which are not seriously impaired unless the surface becomes encrusted or blackened by exposure in an industrial atmosphere, are of value in reflecting solar radiation and generally reducing heat losses from buildings. An average figure for a single skin aluminium alloy roof would be a 'U' value of .40; a double skin aluminium roof with cavity would have a 'U' value of approximately .27. An incidental advantage of the high reflectivity of the internal aluminium surface (when there is no ceiling) is to improve considerably the quality of daylight inside such a building.

Condensation

The risk of condensation on the underside of all types of single skin roof sheeting is high when the weather is cold and the humidity of the air inside the building is high. The incidence of condensation is reduced by the application of 'anti-condensation' paints or (more effective) low density sprayed finishes of asbestos fibre or vermiculite composition. A surer way of eliminating condensation at the same time as increasing the thermal insulation value of the whole roof is to provide a double skin roof, with a ventilated cavity between skins, in which the inner skin is a layer of insulating material incorporating a moisture vapour barrier.

Fire hazard

All this group of materials is accepted as providing the minimum protection required against the spread of fire from an adjacent building. As regards resistance to an internal fire, however, each material as it stands has a disadvantage; asbestos-cement sheets are liable to shatter when intensely heated; most 'protected metal' coatings will melt and drip when subject to an industrial fire; the metal NS3 alloy itself melts at a temperature of approximately 1202°F. So in all cases the effective way of dealing with *internal* fire hazard is to provide an incombustible inner lining to the roof.

Expansion

All these materials have a considerable rate of thermal movement (e.g. a change of temperature of 100°F. causes an aluminium alloy sheet to alter about $\frac{1}{16}$ in. for each 1 foot length). This thermal movement must be allowed for both in flexible fixing methods and in expansion joints in the structure and roof covering at appropriate intervals. In some aluminium alloy roofing systems,

[continued on page 68

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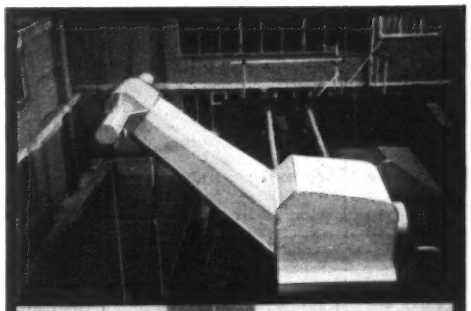

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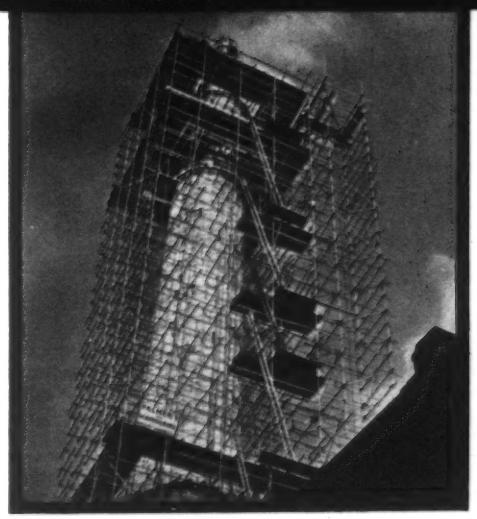
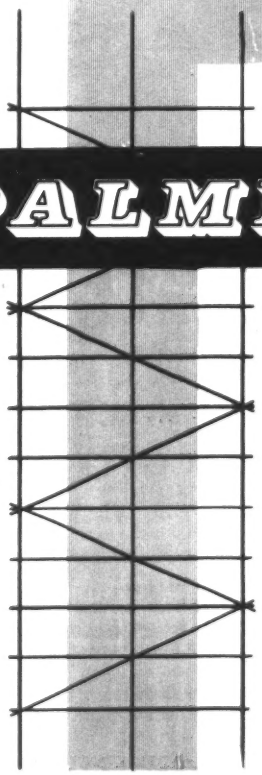
Woodside Green, London, S.E.25

c





* a
PALMATIC electric travelling cradle. (This equipment is for outright purchase only.)

b
The new Polyester Glass Cradle.

c
Scaffolding erected by Palmers to the Monument, London.

SKILL continued from page 66]

'Fural,' for example, expansion across the corrugations, i.e. along the roof, is taken up by the profile of each valley between corrugations changing according to the temperature, i.e. the expansion is not cumulative.

Daylighting through roof coverings

There has been a rapid development of translucent sheetings with profiles to match most of the standard roofing sheetings, which enables them to be laid as an integral part of the roof surface. The earliest method of letting light through the plane of the roof was by means of flat wired glass in conjunction with glazing bars at regular centres, i.e. patent glazing, which was in effect a secondary structure with all the attendant problems of fixing, flashing, etc. Following this there was the development of corrugated wired glass to match the usual 3 in. pitch corrugated sheet, more flexible in use and of a much stronger profile than flat sheet glazing, but still possessing disadvantages of weight, fixing difficulties and liability to fracture. The first translucent plastic material in this field was 'Perspex' acrylic sheet, a translucent/transparent thermoplastic material with great advantages of reduced weight, excellent moulding properties (it is available in a wider range of sheet profiles and rooflight shapes than any other comparable material), but still with the disadvantage of a low melting point, high thermal movement leading to fixing difficulties, and a tendency to scratch easily.

The latest group of translucent sheet materials is that of resin-bonded Fibreglass of which there are now a considerable number marketed; and which possess further advantages of extreme lightness (6–8 oz./sq. ft.), toughness, ease of fixing, good light transmission properties and more recently the development of fire retardant grades which enable them to be used in situations where previously only wired glass would have been permitted.

Conclusion

All the sheet materials possess the advantage of relative ease of handling and fixing, which is directly reflected in low fixing costs; and also in speed of erection, which is an increasingly important factor in the choice of a roofing material. In addition to these advantages aluminium alloy possesses the property of extreme lightness (compared with other sheeting materials and particularly with unit coverings) which can lead to considerable economies in the supporting structure.

Methods of fixing, with few exceptions, involve additional fixing devices such as hook bolts, straight bolts, drive screws and may be surface-fixed or concealed. The Italianized zinc roofing system, a borderline case between a 'sheet covering' and a fully supported covering, for convenience, will be described in the next issue together with fully supported zinc roofing.

One general criticism which can be levelled at the design of most sheeting materials and systems (with a few exceptions, notably 'Fural' and 'Snaprib') is the crudity of the standard accessories, which make it extremely difficult to design a crisp, elegant roof using one of these materials. However, there is no reason inherent in the materials why this should be, as a look at the wide range of carefully designed accessories in the 'Fural' system will show.

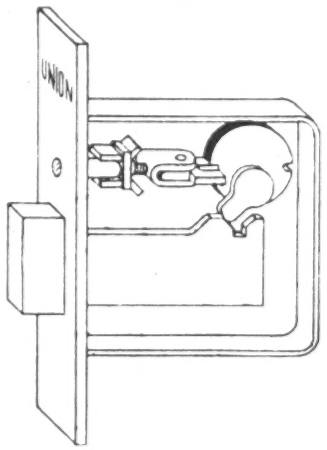
THE INDUSTRY

Locks

In 1948 Josiah Parkes and Sons produced a book called 'Locks and Builders Hardware.' It explained the working of locks and latches, gave numerous definitions of technical terms (like 'lanket hole') and delved briefly into the history of this curiously empirical industry.

The book was written by the company's chief designer, F. J. Butters, who now has revised and largely rewritten it under the title 'An Encyclopædia of Locks and Builders Hardware.' Nearly every page has delightful unsophisticated line drawings of wards, key levers, monkey tail bolts, springs and so forth. The whole book is treated as a series of definitions in alphabetical order breathing the charm and oddity of the locksmith's mystique. Are there signs that the rationalizing force of scientific technology will soon bring order and simplicity to a subject that usually baffles the architect? The American lock set is illustrated (and made by the company) and the author remarks in his introduction of the early 1930's and before that 'it was not unusual to find a thousand or more different varieties in the catalogues of numerous manufacturers' and notes that the trade has not returned to this state of affairs. This valuable reference book ought to find use in our schools of architecture.

Josiah Parkes and Sons Ltd., Willenhall, Staffs.



American lock set illustrated in 'An Encyclopaedia of Locks and Builders Hardware.'

Air Conditioning

Recently, news has been trickling across from America of high pressure air conditioning of a kind new to us. Its advantages are, flexibility of local control and small space for the accommodation of ducts. One English firm now announces a trial installation in their own premises of presumably American equipment. The literature they issue on this experiment is not easy to follow, but the essentials of the system appear to be these: There is a central blower, filter and heater unit from which two main ducts depart to circulate the building. No size appears to be given, but from diagrams one would guess the ducts to be about 10 in. diameter.

[continued on page 70

By Appointment to H.M. Queen Elizabeth II Garden Contractors and Horticultural Builders Wm. Wood & Son Ltd

By Appointment to H.M. Queen Elizabeth the Queen Mother Garden Contractors and Horticultural Builders Wm. Wood & Son Ltd

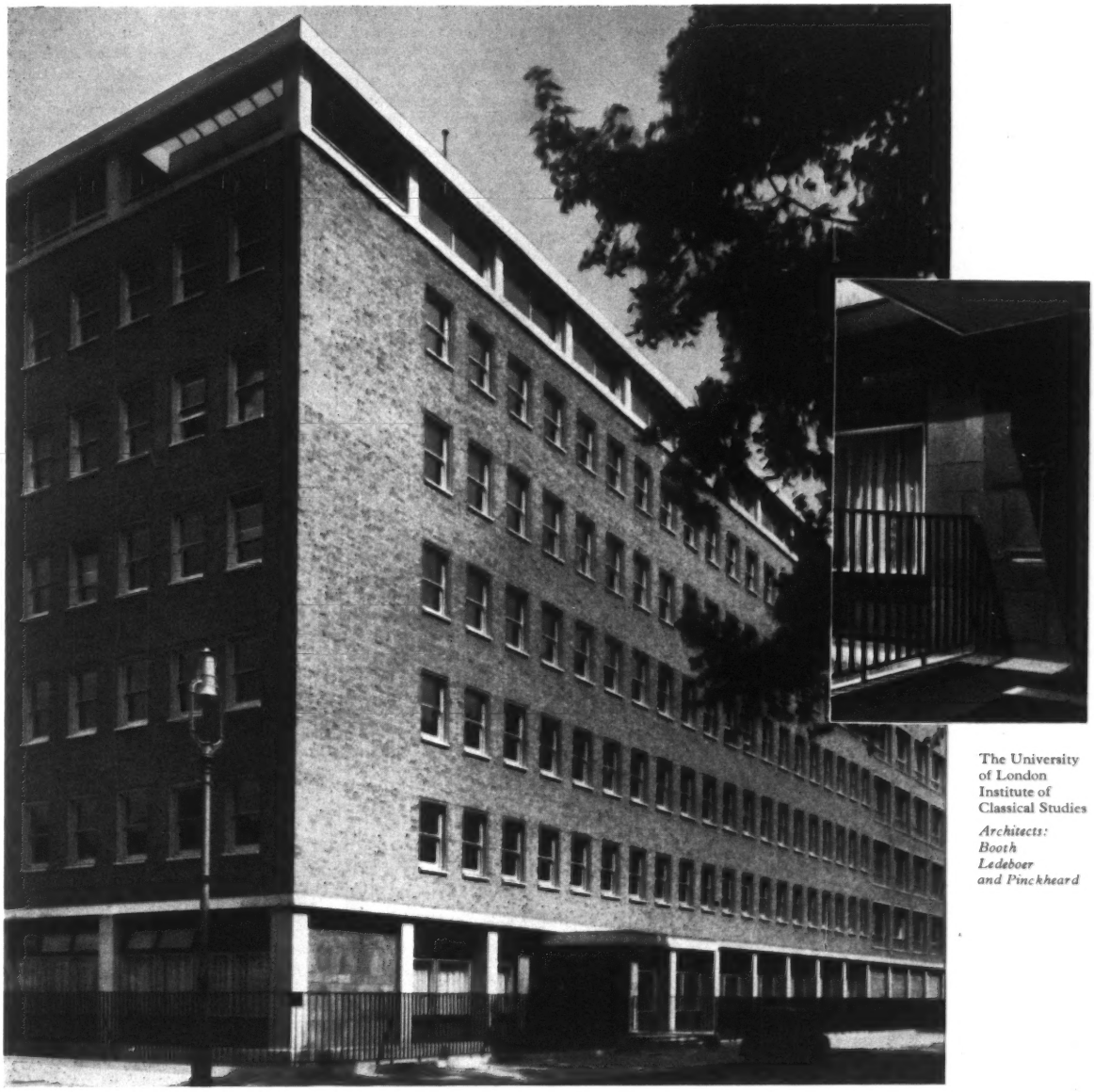
Part of the Spanish garden which was awarded the Royal Horticultural Society's Gold Medal at the Chelsea Flower Show in 1952. It was made for the Sociedad de Amigos del Paisage y Jardines, of Madrid by William Wood and Son Ltd.

Landscape Service for Architects

The Spanish garden was designed on the lines of the famous one at the Generalife in Granada. All the main elements of the Spanish garden are represented. The water fountains, the red-tiled floor inlaid with ceramic squares, the Cypresses along the walls and, not shown in the photograph, the wrought iron gate and windows filled with flowers. This garden lived only for four days, but the high finish bore splendid testimony to the technical skill and virtuosity of its makers.

The water works included twelve fountain jets along each side of the canal beside the smaller jets in the lotus basins. The closely clipped hedges of Box or Myrtle on either side of the canal are a typical feature of these gardens.

William Wood & Son Limited TAPLOW · BUCKINGHAMSHIRE



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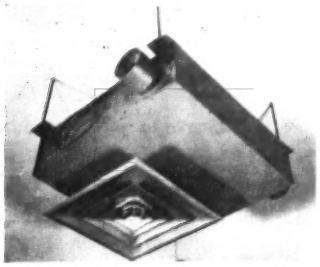


2, dual-duct attenuation box and air diffuser.

One of them takes air at about 130°F. and the other at about 60°F. at velocities between 6,000 and 8,000 ft. per minute. At strategic points in the building they branch off into mixing boxes which attenuate noise, reduce the air to normal velocities for delivery to a secondary local duct system discharging into rooms. The point about these boxes is that a thermostatically operated control varies the proportions of hot to cool air being discharged.

I have heard Britain's foremost heating engineer express interest in systems of this kind that he saw in the United States, so no doubt we shall see and hear (and perhaps feel) more of them.

Brightside Engineering Co. Ltd., Sheffield, 1.

Sanitary Fittings

Shires are now marketing a new w.c. pan, the Uni-Lynx. Perhaps its best claim to attention is that it dispenses with a flush pipe and separate fixing of the low level cistern to the wall. Plastic cisterns have a polythene siphon mechanism and come in three sizes—2, 2½ and

3, the Uni-Lynx w.c. pan.

3 gallons. Architects, doubting its flushing ability may go for the 3-gallon. Water authorities, scared of its voracious appetite may insist on the 2-gallon. If the device follows history, neither will get what he wants because the 2-gallon will require a double flush. To the makers I would say—if the 2-gallon single flush does its job, why market the other two sizes?

Shires & Co. (London) Ltd., Guiseley, Yorks.

Wall Finishes

'Uni-tile Decoration' is the title given to a colourful brochure issued by Richards Tiles. The patterns illustrate a number of different approaches to design—shadow domino, modernistic cartouche, paint brush scribbling, art nouveau 'shapes,' wet surface highlight and what might be described as corrosion patterns. For special purpose interiors there are also tiles with pictures of motor cars, fish, birds and buildings.

The more successful design approach appears to be that which treats each tile as a tile although some of the designs that essay a wallpaper result show better design ideas. Colours are widely interchangeable between tile and tile, and between background and pattern. Indeed, there is something for every taste and the firm will, of course, make to order.

The brochure is a conscientious production, giving single tiles and areas of tiling in colour, and is worthy of a place in the architect's file.

Richards Tiles Ltd., Tunstall, Staffs.

Plastic Sheeting

An unusual brochure about plastic sheeting begins with an imaginary conversation in which Louis XIV suggests to Mansart that all the floors of Versailles—particularly the Gallerie des Glaces and the Salon de Mars—should be covered with Gerflex. The brochure goes on with descriptions of how the material is made and tested, where you can use it and, in astonishing detail, how you lay it. The material appears to be of French origin although it looks much the same as the English versions and can be obtained in this country from *Gerland Ltd.*, 130 *Mount Street*, W.1.

Asbestos Products

Yet another manufacturer announces his intention to use in future the International paper size of A4 (11¾ in. by 8¼ in.) for technical and advertising literature. By some irony, the paper on which this announcement is printed is unabashed foolscap. The company also issues a most useful pocket book which is one-quarter the A4 size—covering all the company's products, asbestos deckings, sheets, pipes, panels and pitch fibre drain pipes.

Universal Asbestos Manufacturing Co Ltd., Tolpits, Watford, Herts.

Bored Piles Brochure

A quite informative brochure comes from the Cementation Co. on bored piles (short and otherwise). It shows numerous photographs of boring operations, lists the types of ground economically suitable for piled foundations, gives a number of test figures and describes the procedure of one particular contract. The company appears to have well organized mobile gangs who can bore from 10 in. to 36 in. diameter up to depths of 25 ft. They do not make extravagant claims for themselves.

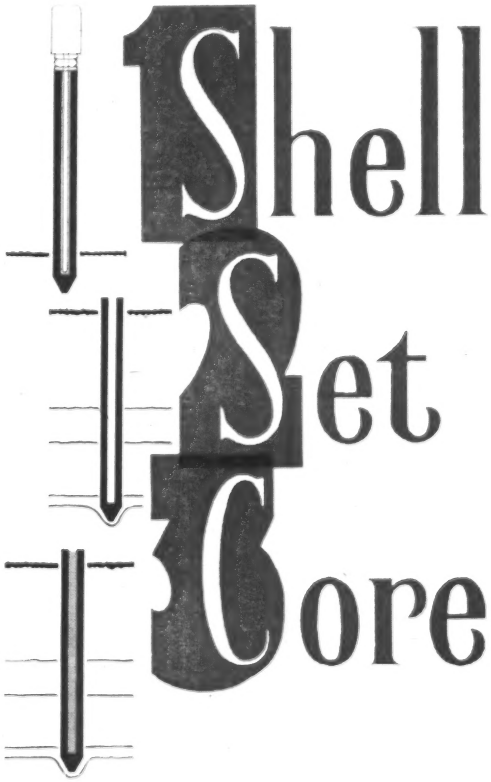
The Cementation Co. Ltd., 20 *Albert Embankment, S.E.*11.

Pre-fabrication

A company well known for its road making activities has launched into the ready-made buildings market with a system based on the 40-inch module. Wall columns at 6 ft. 8 in. centres and spine columns at 13 ft. 4 in. centres support 6 ft. 8 in. wide floor units to give a 20-ft. span building. All this is clearly described in their brochure by good simple sketches and a succinct text free of 'advertising.' Small plans demonstrate room areas and ways of accommodating staircases, lavatories and washrooms within the column grid. A double-page perspective cross section explains the construction and a splendid street scene by Kenneth Browne extends across both covers to show a hypothetical office building in the system.

This is a brochure that architects will not automatically throw into

[continued on page 72



The sequence of operations in West's Shell Piling System has an important bearing on the stability of the pile.

First the precast shoe and reinforced concrete sectional shell are driven to a predetermined "set" in the load-carrying stratum and the reinforced concrete core is then cast in-situ, thus assuring stability of the pile whilst the core is not fatigued.

The system has a number of other advantages: Bearing capacity of each pile can be calculated and the toe resistance and skin friction resulting from the driving of the pile are retained.

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continued from page 70]

the waste-paper basket. It was designed by Herbert Spencer.
Tarmac Vinculum Ltd., Ettingshall, Wolverhampton.

Vitreous Enamel

At a press conference in London recently the newly formed Architectural Division of the Vitreous Enamel Development Council met the technical editors of some of the principal architectural and building periodicals and introduced their first manual on vitreous enamel in architecture. The greatly increased use of curtain wall construction has opened up an important new market for vitreous enamel producers and one section of the manual, most colourfully illustrated, examines current cladding techniques, recommended standards and general specification details. Copies of the manual are available to architects on request. Schools and technical colleges may like to note that the Council are prepared to supply films, colour slides and speakers.
Vitreous Enamel Development Council, 28 Welbeck Street, London, W.1.

CONTRACTORS etc

House at Mongewell. *General contractor:* A. Brown & Sons. *Heating:* Fred G. Alden Ltd. *Asphalte work:* Pilkingtons Asphalte Co. *Wood flooring:* Horsley Smith & Co. *Linoleum:* Catesbys Ltd. *Felt roofing:* The Ruberoid Co. *Sliding windows:* P. G. Allday Ltd. *Dome lights:* Williaam J. Cox Ltd.

House at Fawley Bottom. *General contractor:* A. Brown & Sons. *Hardwoods:* N. A. Bronsten & Co. *Felt roofing:* The Ruberoid Co. *Special steel French windows:* Williams & Williams Ltd. *Sanitary fittings:* Shanks & Co. *Dome lights:* Williaam J. Cox Ltd.

Building for the University of London. *Architects:* Booth, Ledeboer & Pinckheard. *General contractors:* Dove Bros. *Sub-contractors: Metal work:* Albion Iron & Wirework Co. *Terrazzo paving:* Alpha Mosaic & Terrazzo Co. *Structural steelwork:* Aston Construction Co. *Venetian blinds:* J. Avery & Co. *Sanitary incinerators:* C. S. Bacon & Son (London). *Ironmongery:* A. J. Binns Ltd. *Folding partitions:* Bolton Gate Co. *Wall and floor tiles:* James Clark & Eaton Ltd. *Suspended ceilings:* Clark & Fenn Ltd. *Metal gates and railing and stair balustrades:* Clark, Hunt & Co. *Solomatic blinds:* Crittall Manufacturing Co. *Heating and ventilating:* Richard Crittall & Co. *Plumbing and drainage:* W. H. Earley Ltd. *Strip hardwood floors:* Jos. F. Ebner Ltd. *Cork floors:* E. J. Elgood Ltd. *Specialist joinery:* Samuel Elliott & Sons (Reading) Ltd. *Sliding folding screens:* Esavian Ltd. *Asphalt roof and car park:* Faldo Asphalte Co. *Marble wall facing and paving:* Fenning & Co. *Electrical:* G. W. Franklin & Son. *Laboratory fittings:* A. Gallenkamp & Co. *Rolling shutters:* Haskins Rolling Shutters. *Roof lights:* T. & W. Ide Ltd. *Notices and numbers:* The Lettering Centre. *Linoleum floors:* Marbolith Flooring Co. *Fire fighting equipment:* Merryweather & Sons. *Flag staff:* Piggott Bros. & Co. *Internal telephones:* Reliance Telephone Co. *Laboratory floors:* Semtex Ltd. *Metal balustrades:* R. Smith (Horley) Ltd. *Acoustic absorbents:* Sound Control Ltd. *Drainage connections:* O. C. Summers Ltd. *Blackout blinds:* Tidmarsh & Sons. *Lifts:* Waygood-Otis Ltd. *Metal windows and doors:* C. E. Walstead Ltd. *Specialist joinery:* John P. White & Sons. *Suppliers: Sliding door gear:* E. Hill Aldam & Co. *Precast stone dressings:* Atlas Stone Co. *Manhole covers:* Broads Manufacturing Co. *Portland stone:* J. Bysouth Ltd. *Rubber sealing strips:* Empire Rubber Co. *Electric clocks:* Gent & Co. *Precast concrete:* Girlings Ferro Concrete Co. *Ventilating grilles:* Greenwood's & Air-Vac Ventilating Co. *Pavement lights:* Haywards Ltd. *Cycle racks:* La Bas Tube Co. *Winch and lifting gear:* London Electric Firm Ltd. *Mirrors:* London Sand Blast Decorative Glass Works Ltd. *Insulating buffers:* Metalastik Ltd. *Sash weights and pulleys:* Rhodes Chains Ltd. *Coir mats:* Russell Furnishings Ltd. *Slate facings:* Setchell & Sons. *Sanitary fittings:* Stitson Sanitary Fittings Ltd. *Typrod mats:* Tyre Products Ltd. *Soap dispensers:* Valbania Ltd. *Facing bricks:* Williamson, Cliff Ltd.

Housing at Croydon. *Architects:* Riches & Blythin. *General contractors:* Croudace Ltd. *Sub-contractors: Windows:* Crittall Manufacturing Co. *Flat roofing and mastic asphalte:* Pilkingtons Asphalte Co. *Floor tiles:* Armstrong Cork Co. *Patent flues:* True Flue Ltd. *Facing bricks:* W. T. Lamb & Sons Ltd. *Laundry equipment:* Electrolux Ltd.; Flavels Ltd. *Electrical installation:* Terminus Electrical Co. *Lift:* Express Lift Co. *Balustrades:* Scaffolding (G.B.) Ltd. *Paints:* Hadfields (Merton) Ltd.; Walpamur Ltd.; Inertol Ltd. *Plastering and granolithic:* T. F. Rooney & Sons Ltd. *Macadam pavings:* Allmacadams Ltd. *Kitchen units:* E. & H. Grace Ltd. *Sanitary fittings:* Alfred Goslett & Co. *Rainwater goods:* Thames Bank Iron Co.

Laboratories at Chesterfield. *Architect:* Bryan Westwood. *General contractor:* Thomas Beighton Ltd. *Sub-contractors: Blinds:* Danaura Ltd. *Library ceiling:* Excludairs Ltd. *Roofing:* Faldo Asphalte Co. *Reinforcements:* G.K.N. Reinforcement Ltd. *Windows:* Henry Hope & Sons. *Terrazzo:* Jaconello Ltd. *Library fittings:* Harris & Sheldon Ltd. *Laboratory fittings:* North of England School of Furnishing Co. *Flooring:* The Philip Flooring Co. *Frames:* Stuarts Granolithic Co. *Kitchen equipment:* Stotts of Oldham. *Electrical work:* Tyler & Freeman Ltd. *Metalwork:* Tylers Architectural Ltd. *Heating:* Weatherfoil Heating Systems Ltd. *Main gate:* George Wragge Ltd. *Laboratory partitions:* Williams & Williams Ltd. *Kitchen vent:* Keith Blackman Ltd. *Sanitary fittings:* B. Finch & Co. *W.C. partitions:* Flexo Plywood Industries Ltd. *Tracks:* E. Hill Aldam & Co. *Wall panels:* Hilcrete Ltd. *Doors:* Jayanbee Joinery Ltd. *Pavement lights:* Lenscrete Ltd. *Steel:* Moreland, Hayne & Co. *Slate:* Setchell & Sons. *Ironmongery:* Stedall & Co. *Acoustic ceiling:* Sundeala Board Co.

House at Ham Common. *Architect:* Leslie Gooday. *General contractors:* Lodge Bros. Ltd. *Sub-contractors: Cork floors:* Cork Insulation Ltd. *Accotile floors:* Armstrong Cork Co. *Heating and hot water:* Benham & Sons. *Electrical:* Tree Electric Co. *Pitched roof:* Broderick Insulated Structures Ltd. *Flat roof:* Neuchatel Asphalte Co. *Kitchen fittings and specialized joinery:* C. H. Runnalls Sons. *Double glazing:* Pilkington Bros. *Metal windows:* Aygee Ltd. *Insulation board ceilings:* Merchant Trading Co. *Sanitary fittings:* Ideal Boilers & Radiators Ltd.

Boardroom at Grosvenor Place, London. *Architect: Basil Spence & Partners. General contractors:* Holland & Hannen & Cubitts. *Interior sub-contractors:* Gregory & Company. *Leather:* Connolly Bros. *Clock for boardroom:* Thomas Mercer Ltd. *Radio and TV in the secretary's office:* Imhofs Ltd.

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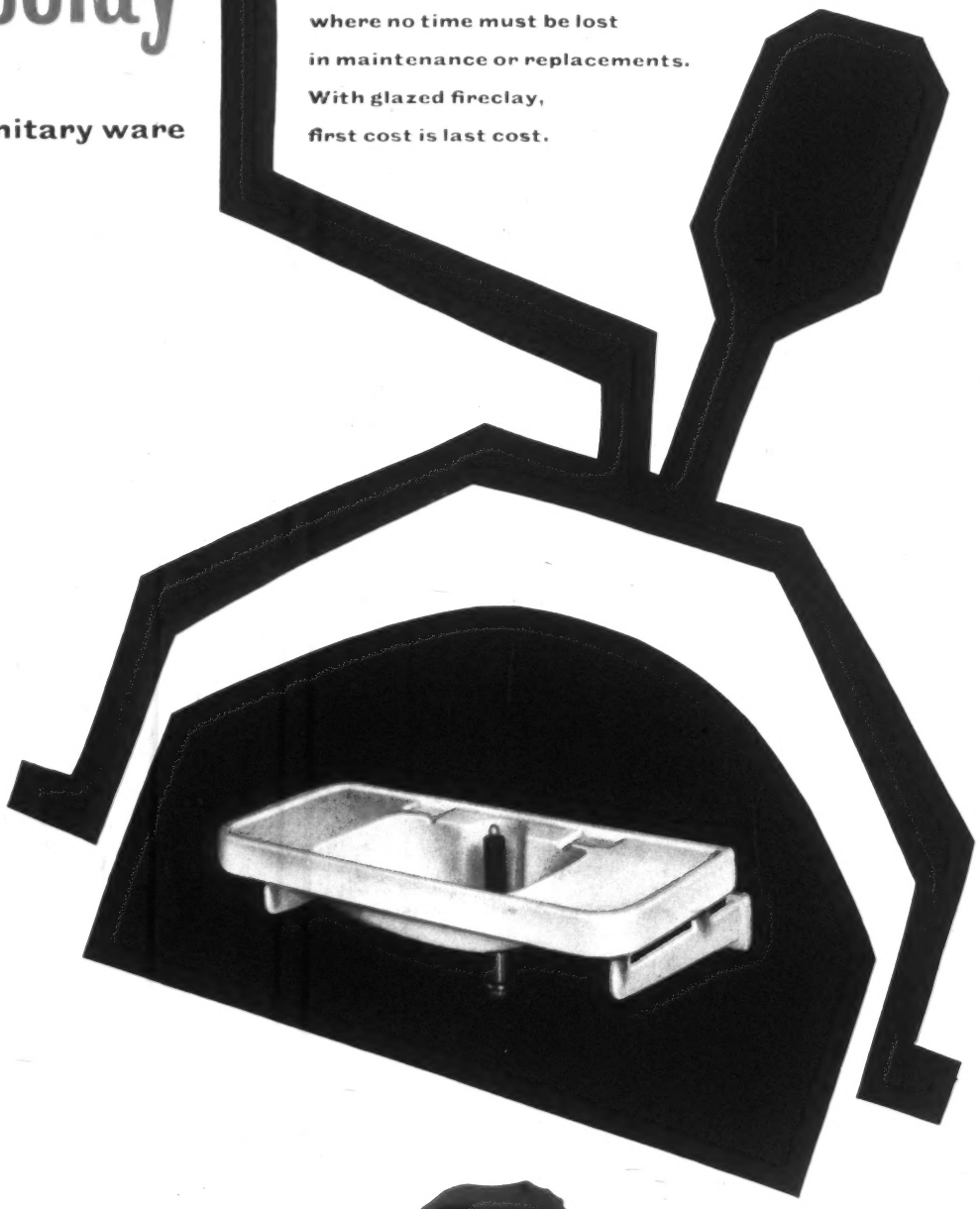

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